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JUNE 22, 1889.

THE AMERICAN ARCHITECT AND BUILDING NEWS

VOL. XXV. REGULAR EDITION NO. 704.

ARCHITECTVRE

ENGINEERING

DECORATION

CONSTRVCTION

TICKNOR & COMPANY

BOSTON MASS.

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The Tombs of the Scaligers, Verona, Italy.
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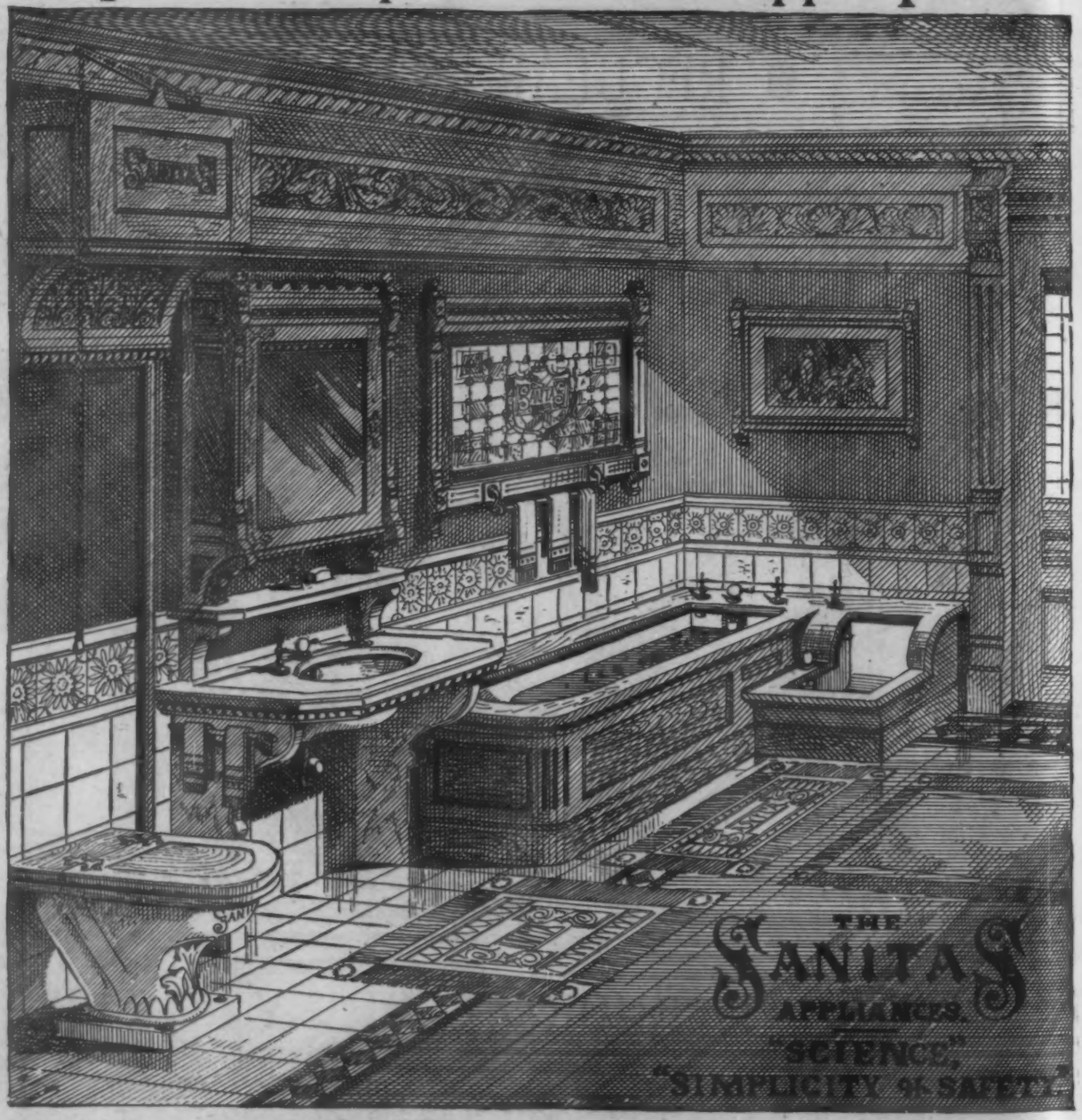
VIEW OF BATH-ROOM FITTED UP WITH THE

SANITAS ✿ PLUMBING ✿ APPLIANCES



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THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXV. Copyright, 1889, by TICKNOR & COMPANY, Boston, Mass. No. 704.

JUNE 22, 1889.

Entered at the Post-Office at Boston as second-class matter.

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A QUESTION of extreme importance to architects in this country has recently been raised in Europe in exactly the form in which it presents itself to us. The Government of Roumania, having occasion to build two great bridges over the Danube, procured designs from native engineers, and had them worked out in detail, and then found itself confronted with the question whether it would be better to use steel or iron in their construction. The Roumanian engineers, who are mostly educated abroad, do not lack skill, and in this case they showed in a signal manner that they possessed, what is, if possible, better than skill, modesty and common-sense, for, instead of evolving from their moral consciousness an opinion as to the relative merits of the two materials, they frankly confessed that they did not know, and that very few men did know, which, in the present stage of the manufacture of rolled iron and steel, would be the safest and best for the purpose. The Roumanian Government, therefore, sent to the General Council of the great French semi-military corps of the Ponts et Chaussées, asking for its advice on the subject, on the ground that the French engineers were more familiar with the question, and had better opportunities of judging, and that their opinion would, therefore, be of more value than that of the native professional men. In response to this request, the Council of the Ponts et Chaussées appointed a commission of three members, who not only prepared a careful opinion, based on French experience, but made a number of original experiments, to determine obscure points, and consulted foreign engineers known to have had exceptional opportunities for forming opinions which would be of value. The result of all these investigations was presented in a report, which has been printed in the *Annales des Ponts et Chaussées*, and is certainly the most important contribution to the literature of construction which has appeared for a long time. After recalling the disastrous failures which followed the early attempts to substitute steel for iron in construction, and which are familiar to architects, the report says that the manufacture of mild steel has of late been very greatly improved, so that the lack of homogeneity which led to most of the early accidents is now not much to be feared, while the methods of rolling and working, and particularly of riveting, have also been modified to suit the peculiar qualities of the material, with signal success. At the same time, the price of steel has been lowered until it is now in Europe about ten per cent more expensive, weight for weight, than rolled-iron. Under these circumstances, the commission says that "both for naval and civil constructions steel of good quality may, in a great number of cases, be used with perfect safety in place of iron." In the case presented to it, of the bridges across the Danube, the commission says that for the wide spans, which are crossed by girders more than five hundred feet long, it would be particularly desirable to use steel, not only for economy of money, since the necessary strength could be obtained with forty per cent less weight of steel than of iron, and even at the European prices, the steel would cost considerably less; but because the load on the piers, which stand on very soft ground, would by the use of steel be considerably diminished. For the short side spans the gain by using steel would be much less, and here it advises that the option should be left with the contractors to obtain the required strength with either iron or steel, but it remarks that even for these the steel would be more reliable, if not cheaper, since the manufacture of rolled-iron has, in its opinion, deteriorated about as fast in Europe as that of steel has improved. With us, it is probable that the manufacture of iron in the best mills is still kept up to the high American standard, and we are not sure that the steel-mills here have improved their processes as much as those in Europe, but the prices fixed by the rolling-mill combination are here the same for steel as for iron, for equal weights, and we can afford to allow a considerable margin for uncertainty as to the quality of the steel, and still save a good deal of money by its use. The subject is so extremely important that we hope it may occur either to the revivified American Institute of Architects, or to the Society of Civil Engineers, to collect some reliable information of the kind in regard to American structural steel, before another year has gone by. If we are not mistaken, some tests have been recently made of steel and iron beams at the Massachusetts Institute of Technology, under the direction of Professor Lanza, and the results of these will certainly be of the utmost value.

A CURIOUS matter of jurisprudence is under discussion in New York. A law went into operation there on the first of January, abolishing executions by hanging, and ordering the substitution of death by electric shock. The first person who has had an opportunity of trying the new plan is one Kemmler, who murdered somebody, probably without taking a great deal of trouble to do so in the most agreeable and painless way, and has in consequence been condemned to lose his own life by the least unpleasant process that science has been able to devise, as a means of deterring others who may be meditating the slaughter of their fellow-men. Fortunately, perhaps, for Mr. Kemmler, but unfortunately for people who do not wish to murder any one else or to be murdered themselves, a powerful influence is, it is said, being exercised to have the sentence commuted, or the method of execution changed, the plea urged being that the Constitution forbids the infliction of "cruel or unusual punishments"; but the fact that a poor and friendless murderer is able to command the services of some of the ablest and most expensive lawyers in the State in defending such a worthless and ridiculous plea indicates, to the mind of experienced persons, that some wealthy corporation has found it for its interest to obstruct the course of justice, and public opinion points to the electric-light companies, which are said to fear that the connection of electric currents and judicial executions in the public mind may injure the sale of electricity. Whether this idea is well founded, we cannot say, although one would think that the almost weekly deaths of innocent persons by the electric current might tend to prejudice people against it quite as strongly as that of a condemned criminal; but if Mr. Kemmler should save his neck, or rather, we suppose we should say, his nerves by this interference, we hope he will be placed on exhibition as an example of what the electric-light companies can do in the way of saving life when they find it for their interest to exert themselves in that direction.

THE *Wiener Bauindustriezeitung*, one of the most useful technical journals which comes to our office table, contains some tests of the quality of roofing-slate, which are new. It seems that an important lawsuit against a contractor turned

to some extent upon the quality of the slate used on the roofs of a row of houses, and an expert chemist was appointed by the court to examine the slate, and give testimony concerning their quality, and concerning the properties of roofing-slate in general, about which few architects or builders know much with certainty. The result of his investigations is well worth remembering by every one who has to do with roofing-slate. He found that, as a rule, all slates contain fine lines, running parallel with what may be planes of secondary stratification or of crystallization. By holding a roofing-slate a little below the eye, and inclined from it, these lines may be seen. If they run parallel with the long side of the slate, this is properly cut, and, if of good quality, will keep its place in the roof. If the lines run across the slate, or at an angle with its sides, it is likely, whatever the quality, to break across, or lose a corner, at the least provocation. The hardness or specific gravity, contrary to the usual belief, gives no reliable indication of the quality of a slate. A better test consists in striking them together, or tapping them with a hard substance. If they ring clearly under this treatment, they are likely to be good, and a dull sound on percussion generally shows a poor slate. The familiar experiment of setting the slates upright in a dish of water, and noting how far the water ascends by capillary attraction in the substance of the slate, is still one of the best tests that can be made. In a good slate the water should rise only slightly above the surrounding surface. A slate which draws up the water to a considerable height should be avoided, as likely to be destroyed by frosts and weathering. Some slates, apparently hard and non-absorbent, decompose on exposure to the air, by chemical action. These are best detected by placing samples in test-tubes, and covering them with a saturated aqueous solution of sulphurous acid. A bad slate will begin in a few days to crumble away, while a good sample will resist the action of the acid for weeks, or even months. If a portion of the slate to be examined, when powdered, and covered with muriatic acid, effervesces strongly, the presence of carbonate of lime is shown, and the slate should not be used. If another sample, when powdered, and strongly heated in a test-tube, gives off a yellow sublimate of sulphur, with a smell of sulphurous acid, the slate contains iron pyrites, and will not be durable on a roof.

M. MAMY gives, in *La Construction Moderne*, some more detail of theatrical machinery, which may be of use to architects who have theatres to build and furnish. Speaking of the snow and rain of the stage, he says that the imitation of the natural phenomena is not usually very perfect. For rain, it is usual to employ a long wooden box, partly interrupted at intervals by partitions of wood or sheet-iron, through which small pebbles or dry peas are allowed to descend, with a noise faintly resembling that of a shower. Snow, on the stage, usually consists of bits of paper, thrown down from above. The illusion is anything but perfect, but the better substitutes, such as portions of wool or cotton batting, are too expensive for use. One would think that wood-fibre, as prepared for paper-making, and bleached, might be a cheap and good material, but we do not know that it has ever been tried. Great improvements have recently been made in stage artillery. The old fashion was for the actors to fire blank cartridges at each other, but occasionally a ball-cartridge would get into the guns, to the detriment of the person who happened to be standing in front of them, and one actor was killed on the stage merely by the wad of a cartridge supposed to be perfectly innocent. For this reason, in well-regulated theatres, the actors are not now allowed, even with blank cartridges, to aim at each other, but must fire in the air, and the guns are all loaded by the stage armorer, and are only fired once, for fear of some mischance, so that a large number of guns is required. By the new system, invented by M. Philippe, Secretary of the Bouffes-Parisiennes, the guns used on the stage contain a long spiral spring, which carries a needle at the end. The piece is loaded by compressing the spring, which is retained by a simple mechanism, and inserting in the muzzle a cork, which contains a charge of fulminating mercury. On pulling the trigger, the spring is released, and the needle strikes the fulminate, which explodes, blowing the cork into dust, without injury to any one. Guns of this sort can be aimed directly at their victim without danger, and may be reloaded by those who carry them, so that their use saves a good deal of trouble and expense, and they are rapidly becoming popular among managers.

IT is rather a comfort to think that there is one place in the world where the ethics of competitions are as little understood, or regarded, as in this country. This benighted place is Buenos Ayres, where a competition was invited last year for a grand public building. The sketches were to be handed in on the first of January, and on the appointed day three architects submitted designs. All these, on examination, were pronounced unsatisfactory, and a new competition was called for, to close on the first of April. Eleven architects responded to the second invitation, and, after a suitable time had elapsed, they were notified that the Government had decided to do nothing more about the competition, but to have its plans drawn by the official architect, and they could have their drawings back by sending for them. The *Deutsche Bauzeitung* thinks that this is a warning against engaging in foreign competitions, and we might add that it ought to be a warning to us, who are much worse off than the German architects in this respect, to make up our minds quickly not to submit any longer to the South American method of conducting such affairs, and take steps to enforce our decision.

A HOUSE in Scotland has been provided with a private electric railway, to convey its inmates to and from the railroad station, which is about a mile and a quarter away. Power is obtained from a waterfall some three miles off, by means of a turbine wheel, attached to a dynamo, and giving a current of forty ampères, at four hundred volts pressure. The conductors are bare copper wires, making a complete metallic circuit. The conductors along the line consist of soft-iron rods, supported above the sleepers, and insulated. The line is of thirty inches gauge, and a handsome car is provided, which can be run at the rate of thirty-five miles an hour. Although the railway is principally used for communication with the station, sidings have been arranged, so that it can be used for the purposes of the farm. One would think that a line of this kind might be advantageously employed as an addition to the conveniences of our own mountain hotels. There are many places where the transit from the station to the hotel is made by crowded and uncomfortable vehicles, which could be replaced by an electric car, driven by water-power, at a great saving of expense, and with increased satisfaction to the public.

ONE of the most famous technical schools in Europe is, as was lately shown in the *American Architect*, the Technical High-School in Berlin, which graduates architects, as well as engineers, mechanical engineers, designers of ships, and so on, and it is interesting to compare the statistics which the *Deutsche Bauzeitung* gives in regard to it with those of our own schools of the sort. During the winter term of 1888–89, the total number of pupils in the school was eight hundred and seventy-three. Of these, one hundred and eighty were students of architecture, one hundred and eighty-one followed the course in constructive engineering, three hundred and twenty-three were mechanical engineers, eighty-four studied naval engineering, and one hundred and five took the general courses in mathematics and natural philosophy. For the instruction of these students there were sixty professors, twenty-seven tutors, and eighty-eight assistants. The students appear to come from all parts of the world, one hundred and twenty-three being foreigners. Eleven of these were from England, ten from Roumania, thirty-five from Russia, two from Siam, two from Japan, twenty-five from Norway, and nine from North America.

THE largest steam-engine in the world is that constructed for the new Italian cruiser "*Sardegna.*" It really consists of four triple-expansion engines, which can be used together or separately, as desired, the entire combination being capable of developing a force of twenty-two thousand nominal, or twenty-five thousand actual horse-power. The ship is driven by twin screws, and two engines are connected to the shaft of each screw, but one screw can be stopped altogether if the vessel is to be turned around, or, for ordinary sailing, one engine only may be used for each screw; but, in case it should be necessary to increase the speed, the other engines can at once be connected and the full power exerted. As usual with naval machinery, a large number of auxiliary engines are used. On the "*Sardegna*" there are no less than twenty compound auxiliary engines for feeding the boilers, keeping up the draught, and so on, besides a great variety of single-cylinder machines.

BUILDERS' HARDWARE.[1]—XXVIII.

HOOKS.

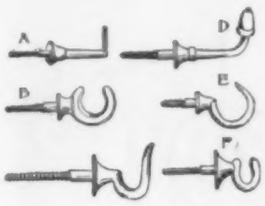


Fig. 417. Screw-hooks.

BESIDES the hooks described in the last chapter, there are other forms which cannot be classed as closet hardware. Figure 417 illustrates several varieties of brass screw-hooks. *A* is made in nine sizes, from ½ inch to 2 inches in length. The same form is made with a sharp-pointed shank instead of a screw, intended to be driven into the wood. *B* is known as a cup-hook, intended to go on strips to receive cups, which are hung by the handle over the hook. This form is made in five sizes, from 1½ to 2¾ inches long. *C* is termed a looking-glass hook. *D* is an acorn-hook, made in six sizes, from 2 to 4½ inches long. *E* and *F* are both picture-hooks. The former is made in six sizes, from ¾ inch to 1¾ inches. Figure 418 represents a hook similar to the preceding, but with a longer shank, being made in seven lengths, from four to ten inches: it is designated as a bird-cage hook.

Fig. 418. Bird-cage Hook.

Picture-moulding hooks are made in quite a variety of shapes, a few of which are shown by Figure 419. The most

Fig. 419. Picture-moulding Hooks.

Fig. 420. Chandelier-hook. J. B. Johnston.

common form is the second one on the upper row, it being made to match the common stock picture-moulding. A very serviceable hook, not illustrated here, is made with flat brass, with the ordinary contour, quite broad at the top where it fits over the moulding, but narrowing at the bottom to receive the cord or wire. Moulding-hooks are usually made in three sizes, and are always of brass or bronze. Chandelier hooks, Figure 420, are intended to screw through the lath and plaster into the ceiling beams or the furring, the screw part being 2½, 4, 6 or 8 inches long. Figure 421 shows a chandelier-hook provided with a catch, so that nothing can slip out when once hooked.

Fig. 421. Chandelier-hook with Catch. J. B. Johnston.

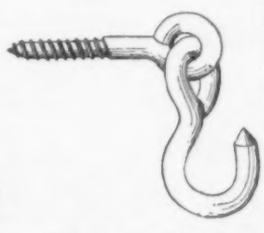


Fig. 422. Hammock-hook.

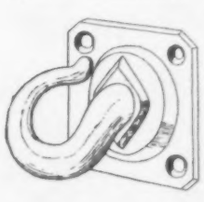


Fig. 423. Clothes-line Hook.

Fig. 424. Awning-hook.

Hammock-hooks, Figure 422, are made of ⅜ inch galvanized or tinned wrought-iron. Clothes-line hooks, Figure 423, are also sometimes used for hammocks, though less suitable on account of the friction of the rope in the hook. A lighter form of clothes-line hook is made to be attached by two screws. These hooks are made in three sizes.

Awning-hooks, Figure 424, are made to drive into the wood, and be caught in eyelets in the awning. They are manufactured in sizes from 1½ to 6 inches.

BRACKETS.

Shelf-brackets have been previously discussed. Some form of inclined bracket is often desirable to support the side-rail of a flight of stairs. One of the simplest consists of a bent plate, Figure 425, screwed to the wall on an angle, so as to bear against the under side of the rail. A better form is screwed to

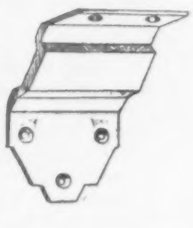


Fig. 425. Stair-rail Bracket. Reading Hardware Co.

Fig. 426. Stair-rail Bracket. Reading Hardware Co.

Fig. 427. Stair-rail Bracket. Shepard Hardware Co.

the wall in a vertical position, and has a swiveled bar or plate which adjusts itself to any angle of the stair-rail. Figures 426 and 427 illustrate two styles. Similar brackets are made with fixed rail-plates, and there are a number of varieties in the market differing from those described chiefly in regard to finish.

Bar-rail brackets, Figure 428, are intended to support a round rail such as is usually carried across the front of a bar-room counter. The first form shown is sometimes used to support a

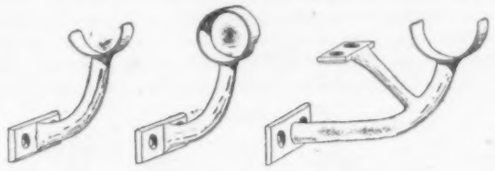


Fig. 428. Bar-rail Bracket. J. B. Shannon & Sons.

round stair-rail, and when made of plain bronze, presents a very good appearance. A bracket like the second form is sometimes used to support an iron foot-rail at the base of a bar or counter.

All these brackets can be had in either bronze or bronzed iron.

LETTERS AND PLATES.

Very few styles of letters and numbers are kept in stock by hardware dealers. Plain, Roman characters, Figure 429, are usually the only ones on hand. They are in seven sizes, from ½ inch to 3 inches high, and are secured to the door or the woodwork by blind tacks, soldered to the back of the pieces. They can be had in either bronze, brass or nickel-plate.

Fig. 429.

Letter-plates are often used to cover the letter-slot through office-doors. Figure 430 shows one style, with a recessed slot protected by a hinged flap. This is essentially what is commonly employed. On fly-doors some form of plate is desirable on each face of the door to prevent the paint from being soiled, and such plates are often marked "push"

Fig. 430. Letter-Plate. Hopkins & Dickinson Mfg. Co.

[1] Continued from No. 702, page 268.

or "pull." They may be of porcelain, iron, bronze, brass or nickel-plate, the first material being the cleanest and most easily cared for. They are made in all varieties of design, but are in principle too simple to require any illustration.

Fig. 431. Label-plate.

Label-plates are made to order in porcelain quite extensively for druggists' drawers. There are also plates manufactured to go on drawer-fronts and receive card-labels, the upper part of the plate being thinner than the rest, so that the card can be slipped in from above. Figure 431 will illustrate the general form of a label-plate. The neatest style has a plain, rectangular outline in bronze. Label-plates are made in several sizes from about 1 x 2½ inches to 2 x 4 inches.

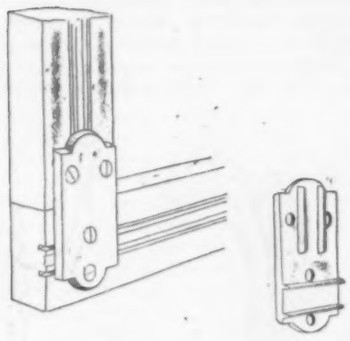


Fig. 432. Screen-door Corner-iron. E. C. Stearns & Co.

Figure 432 shows a plate a little foreign to the present topic, it being used to stiffen the joints of light screen-doors. It is provided with tongues which enter firmly into the wood in each direction, and prevent any sagging or settling. The plates are sold in sets, each set including six-corner irons and a knob or handle, with the necessary screws. The list-price is $5 per dozen sets, in bronzed iron.

FOOT-SCRAPERS.

Foot-scrapers are used much less than formerly. A simple form, consisting of a thin-plate supported by one or two plain drive-shanks is always advisable, however, for the piazza of a country house. Figure 433 shows a more elaborate scraper, intended to be screwed to the floor or step. A form often seen

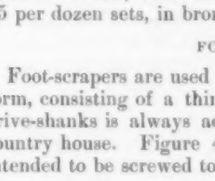


Fig. 433. Foot Scraper. J. B. Johnston.

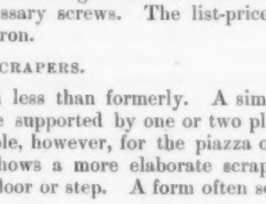


Fig. 434. Foot Scraper. J. B. Johnston.

in some parts of the country, Figure 434, is set in a pan or dish, intended to collect the scrapings. The other varieties found in the market differ only in design or finish, but not in principle. Foot-scrapers are usually of Japanned cast-iron.

BELL HARDWARE.

The subject of bell-fittings is too extensive to be considered very fully in detail, especially as bell-hanging is a trade by itself, and the house-carpenter has usually very little to do beyond hanging the simplest kind of kitchen-bell or fitting a gong to the back-door. The front-door is fitted with a bell-pull, as explained in the chapter on knobs. This is connected with wires which usually are carried down to the cellar-ceiling, and across and up to the kitchen. The corners are turned by the aid of bell-cranks. Figure 435 shows the form of crank generally fitted just inside of the bell-pull, and Figure 436 shows a complete set of bell-hanging fixtures, including the bell, which is secured to the wall by a spike driven through the centre of the spiral coil. The elasticity of the coil and the connected spring is so great, that when the fixtures are properly set, the least pull at the front-door will cause the bell to ring. Figure 437 illustrates a different form of bell-carriage, made by the Russell & Erwin Manufacturing Company.

For the back-door it is customary to use some form of gong which can be screwed to the inner face of the door. In the cheapest makes the bell-strike is operated by a handle on the outside, which on being drawn down, releases a spring-hammer.

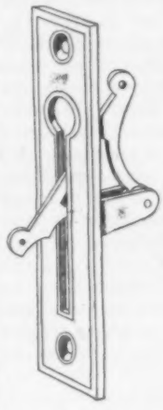


Fig. 435. Bell-crank. Russell & Erwin Mfg. Co.

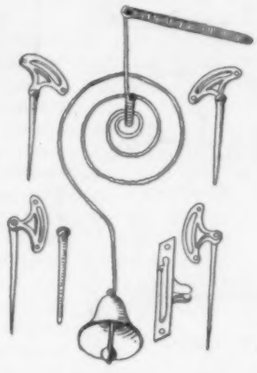


Fig. 436. Bell-hangings.

Fig. 437. Bell-carriage. Russell & Erwin Mfg. Co.

Some gongs are made so as to give a double-stroke. Figure 438 illustrates a double-stroke bell which works with a pull instead of a lever. There is, also, in the market a bell provided with a spring escapement which is set by pulling the

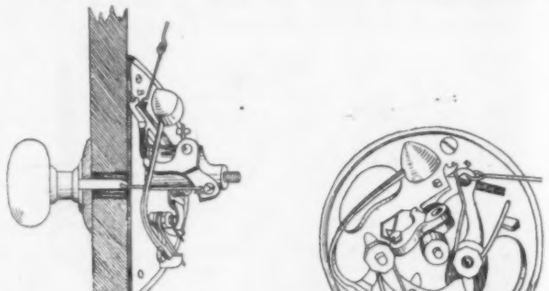


Fig. 438. Double-stroke Pull Gong-bell. Russell & Erwin Mfg. Co.

handle, and gives a continuous ring like that of an electric-bell, lasting about five seconds. This is known as "Bushby's Escapement Bell."

GATE-FIXTURES.

Ordinary strap-hinges are sometimes used for gates, and there are a few forms of heavy wrought-iron butts which also

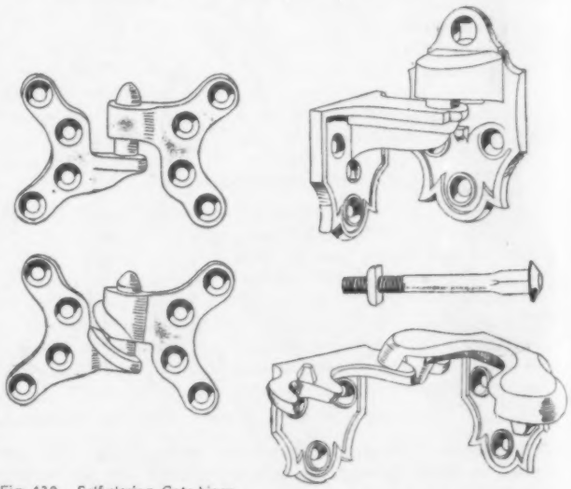
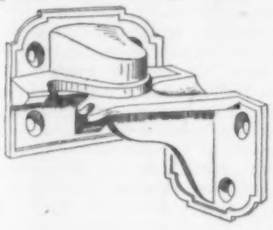


Fig. 439. Self-closing Gate-hinge, St. Louis Pattern. Shepard Hardware Co.

Fig. 440. Seymour's Gate-hinge. P. & F. Corbin.

answer for the purpose; but there is in the hardware market quite a variety of fixtures especially devised for gates, and the

special forms are usually preferred. Gate-hinges are always arranged to be self-closing, generally acting by gravity. Shepard's St. Louis pattern, Figure 439, has the bearing-surfaces of the lower hinge made on a sharp incline, so that when the gate is opened, it is lifted bodily, and descends in closing. This principle is embodied in several different patterns. It, of course, permits the gate to open only in one direction. With



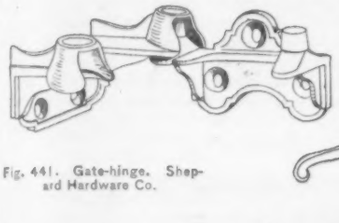


Fig. 441. Gate-hinge. Shepard Hardware Co.

"Seymour's" hinge, Figure 440, the gate is practically suspended from the upper pivot, and bears laterally against two pivots at the bottom, so spaced, that when the gate is open, the bottom is thrown out more than the top, and its own weight is sufficient to close it. Figures 441 and 442 are variations of the same principle, a simpler application of the idea being shown by Figure 443. All of these will open both ways.

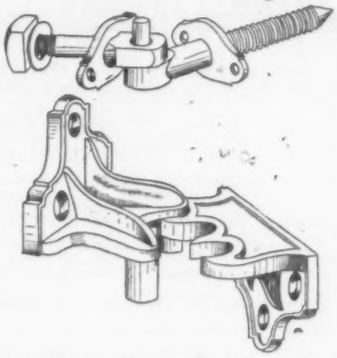
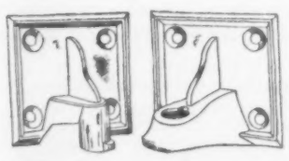


Fig. 442. Gate-hinge. Shepard Hardware Co.

GATE-LATCHES.

A very common form of gate-latch is shown by Figure 444. It consists of a bent lever which is mortised through the gate-frame, the bolt catching in a strike on the post. A spring keeps the bolt thrown out, and the beveled strike permits the latch to be self-closing. With a strike which is beveled each



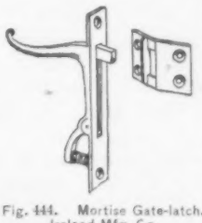


Fig. 444. Mortise Gate-latch. Ireland Mfg. Co.

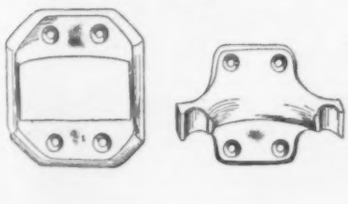


Fig. 443. Gate-hinge No. 20. Shepard Hardware Co.

Fig. 445. Broads's Patent Gate-latch. Ireland Mfg. Co.

way, this latch can be used for a double-swing gate. Figure 445 shows a latch which is very commonly used with gates swinging only one way. The catch acts by gravity alone. Figure 446 represents a gravity, mortise catch. The latch shown by Figure 447 is planted on the face of the gate-frame, and works with a spring. The latch, Figure 448, is planted on the edge of the gate-frame, which has to be kept correspondingly away from the post. The Yale & Towne Manufacturing Company has a somewhat similar gate-latch, Figure

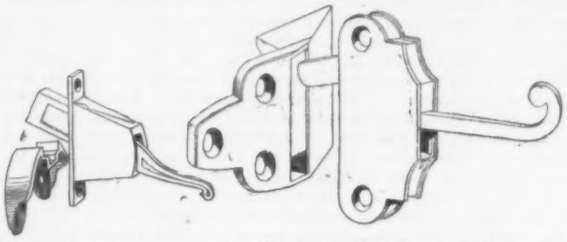


Fig. 446. Gate-latch No. 2. Shepard Hardware Co.

Fig. 447. Seymour's Gate-latch. P. & F. Corbin.

449. Both are opened by pressing down one of the arms. "Seymour's" cylindrical gate-latch, Figure 450, is mortised

Fig. 448. Gate-Latch, No. 20. Shepard Hardware Co.

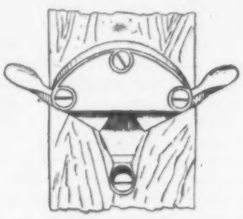


Fig. 449. Leeds's Gate-Latch. Yale & Towne Mfg. Co.

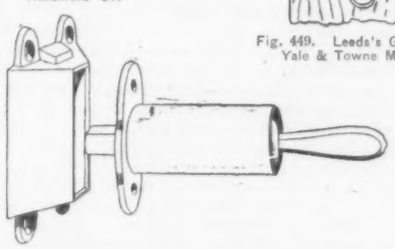


Fig. 450. Seymour's Cylindrical Gate-Latch. P. & F. Corbin.

through the gate-frame, and opens when the handle is depressed.

There are many other styles of gate-hinges, but few which differ materially from those we have considered.

[To be continued.]

SIXTEEN-STORY BUILDINGS. — PROPOSED ORDINANCE TO RESTRICT THE HEIGHT OF BUILDINGS. — THE TACOMA BUILDING. — A PATENT AND CLAIM FOR ROYALTIES. — THE OWINGS BUILDING.

PARADOXICAL as the remark may appear, it is at this moment difficult to guess whether the era of very high buildings in Chicago has ended, or whether it has just begun.

From the old-time four-story office-building, the number of floors slowly crept up to six, then eight, then ten, and now thirteen and fourteen stories seem about to be abandoned in the proposed new gigantic structures of sixteen. However, on the other hand, the city fathers have been revolving in their minds if they shall not take a hand in the matter and stop such "sky-scrapers," so that as this letter is written an ordinance is pending, which, if passed, will practically end the construction of general office and commercial buildings over nine or ten stories in height. Since the completion of some of the high buildings there has been some complaint and many newspaper articles relative to the absence of sunlight in some of the streets and offices lined by these huge constructions. Between the shadows cast by these buildings and the pall of black smoke continually hanging over us, the sun has been almost banished from some of the business portions of Chicago. As a result of the lamentations, the matter has been under consideration by the Common Council for some time, and several schemes have been proposed, notably one, that no building should be erected whose height exceeded the width of the street upon which it was situated. This, however, has been somewhat modified, so that the ordinance, as it will be presented to the Council for action, while taking into consideration the different widths of the streets, does allow a slight excess over such width. But in no case

can any building (towers, spires, etc., are excepted) extend over 125 feet above the sidewalk-line without the written consent of one-half of the property-owners on both sides of the street in that block where such building is to be erected. Within a few days this question will undoubtedly be decided, since (however questionable the act may be) a permit for one of these new high structures has been refused, pending action by the Common Council. What the outcome will be is a very uncertain matter, as both sides claim that they are sure of victory; but, should the ordinance be passed, there is no doubt but that the question of its legality would very shortly be tested in the courts, as there are now on the boards four or more of these gigantic structures shooting up sixteen stories into the air. Should the promoters of these buildings be unable to obtain the requisite permission from adjoining property-owners as very likely would be the case, they would not give up without a struggle.

For the past few years many conservative people have been asserting that no more office-room was needed in Chicago, but each year larger and finer buildings have been erected, only to be at once filled by desirable tenants, and still the work continues without any apparent abatement. Not only are new and magnificent buildings constantly going up, but many old ones are being entirely remodelled, and, where possible, additional stories put on. Offices that are either dark or difficult of access are a drug on the market, and owners of old buildings are, to their sorrow, beginning to recognize this fact even more than ever since the first of last May, when two more new, large and well-arranged buildings were thrown open to the office-renting public.

The Tacoma Building, thirteen stories high, at the corner of Madison and La Salle Streets, has probably been the subject of more comment (both intelligent and unintelligent) than any building lately erected in that district. The construction of the two fronts is that of the iron column covered with masonry that has been so frequently used in Chicago, although in this case it would seem as if it had been reduced to its last expression, since most of the piers have only one thickness of either brick or terra-cotta around the iron core. The window-space is thus increased to its utmost. Large bays, also of iron framework, protected by terra-cotta, project from the second floor and extend through every story to the cornice. This method of iron construction, although not carried to quite such an extent, is one that has been employed here and probably in other cities for many years. An account of a special piece of such construction was published in one of the Eastern engineering papers some six years ago, but lately an architect in Minneapolis comes forth and heralds to the world that it is his invention, and that he has patented it, and practically tells people that any one building iron columns into walls would be infringing upon his patents, and hence could be prosecuted. Some parties are said to have been fools enough to be frightened into paying a royalty. The owners of the Tacoma Building duly received notice that it was an infringement on this patent, and that they would have to pay a royalty. At last reports, however, the patentee has not considered it advisable to push his claim. The rooms of the building in question are extremely irregular in shape, but every portion of the building is well lighted and without a dark corner, so that, with the exception of the elevator-space being too small, the method of planning has been a great success. Built avowedly as a money-making scheme, and every consideration of looks made entirely subservient to that of utility, it is only to be wondered that the exterior looks as well as it does. It is exactly what it purports to be — straightforward construction repeated story after story, and covered with brick and terra-cotta, with a little attempt at a change of design in the upper stories, where some loggias are introduced. Apropos of this building and another of somewhat similar character now being erected, one of the city papers remarked: "Beauty and prominence were the high aims of ancient architecture: for this the labors of many men for many years were thrown into a single structure. From the modern economic standpoint such labor was buried, since it never became self-aggrandizing in the form of capital. Chicago utilitarians are not given to apostrophizing the shades of the Greeks or Romans, or to make burnt offerings to bygone ideals. Chicago is notably fireproof, and, although lines of beauty in arches and columns are all very well, the man of business is not to be deterred from getting what he calls his money's worth by any frivolous objections made by devotees of the æsthetic. . . . These buildings, in justice to the builders and architects, must be viewed as nothing more nor less than huge money-making schemes in what may be called commercial architecture, where space, light, convenience and safety are essential."

This is really the key-note to all of these huge buildings already built or about to be built. They are specimens of "commercial architecture," and as such they are unquestionably a success; but, when viewed in any other way, it takes the most deceiving drawing from impossible points of sight, and with impossible sunlight and shadows, to make them even approach within hailing distance of the artistic. The interior of "The Tacoma" is plainly finished in oak, with a high white marble wainscoting in the halls. Nearly every room or suite of rooms has its vault, and all are furnished with coat-closets and toilet facilities. The entrance-doors, which are light, and not great cumbersome things, have the styles and rails covered on both sides with light bronze-work, making a pretty effect in a manner as yet new here. At one time it was not intended to utilize the attic, except for pipes, tanks, etc., but eventually it was decided otherwise, and the heavy iron water-tanks, although in place nearly two hundred feet above the sidewalk, were bodily raised eighteen feet and placed on the roof — a feat which the contractors declare to be the highest job of raising ever done in the world. It may be interesting to note that the average price of rental per square foot of floor-surface (above the second floor) is not far from $1.45.

The other new building, "The Owings," has already gained, even outside of Chicago, a notoriety on account of an accident that occurred there a few months ago. This building presents much more claims to the picturesque than "The Tacoma," and, moreover, it is very fortunately so placed, on a corner, that its best features can be seen from a distance, and to the very greatest advantage. It has a steep roof, gables and a corner-tower, but the eleven stories of "commercial architecture" before arriving at the cornice are a severe strain upon artistic effort. However, artistically, it is probably the most satisfactory building yet constructed of its kind. The exterior is a combination of stone, brick and terra-cotta, but all in a gray tone which has nothing bright or pretty about it, and materially detracts from the general effect. The best feature of the building is the main entrance, with a large Gothic pediment extending up through two stories, and elaborately carved.

The ground-plan of the building is small, scarcely larger than the auditorium tower, but the rooms seem to have been economically arranged.

ILLUSTRATIONS

[*Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.*]

EXTENSION TO THE ADAMS HOUSE, BOSTON, MASS. MR. W. WHITNEY LEWIS, ARCHITECT, BOSTON, MASS.

[Helio-chrome, issued only with the Imperial Edition.]

BRERETON HALL, CHESHIRE; BRAMSHILL, HAMPSHIRE; MORETON HALL, CHESHIRE; CREWE HALL, CHESHIRE.

[Issued only with the Imperial Edition.]

These prints are reproduced from Samuel Hall's "*Baronial Halls of England.*"

AGE OF FRANCIS I. — THE DINING-HALL, CHENONCEAUX.

[Issued only with the Imperial Edition.]

THE TOMBS OF THE SCALIGERS, VERONA, ITALY.

See article on "Equestrian Monuments" elsewhere in this issue.

PORTION OF THE TOMB OF CAN SIGNORIO, VERONA, ITALY.

See article on "Equestrian Monuments" elsewhere in this issue.

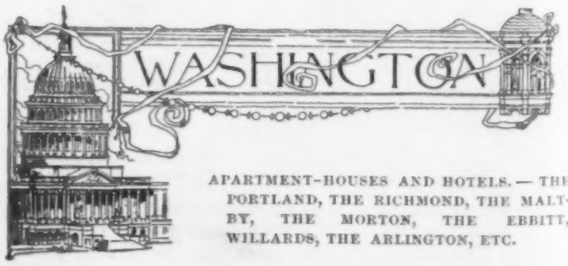
MONUMENT TO THE DUKE OF BRUNSWICK, GENEVA, SWITZERLAND. M. J. FRANEL, ARCHITECT. M. CAIN, SCULPTOR.

See article on "Equestrian Monuments" elsewhere in this issue.

HOUSE AT MANCHESTER, VT., FOR E. S. ISHAM, ESQ., CHICAGO, ILL. MR. F. W. STICKNEY, ARCHITECT, LOWELL, MASS.

HOUSE OF GEORGE M. JONES, ESQ., GREENSBURGH, PA. MR. J. A. DEMPWOLF, ARCHITECT, YORK, PA.

HOUSE OF J. F. SINNOTT, ESQ., ROSEMONT, PA. MESSRS. HAZLEHURST & HUCKEL, ARCHITECTS, PHILADELPHIA, PA.



APARTMENT-HOUSES AND HOTELS. — THE PORTLAND, THE RICHMOND, THE MALTBY, THE MORTON, THE EBBITT, WILLARDS, THE ARLINGTON, ETC.

SOME eight or nine years ago the first apartment-house or flat-building was erected in Washington. It was an innovation as an investment, and I heard many business men express doubts as to its being a paying investment in a city where there was still an

abundance of ground available for separate dwellings. This first apartment-house called "The Portland" was designed by Messrs. Cluss & Shultz. On the exterior it is brick trimmed with large galvanized-iron window heads and cornice. It is excellently arranged inside for its purpose. All the rooms are well lighted being on one of the acute-angled corners so common in Washington at the intersections of avenues and streets. It has entrances both on Vermont Avenue and Fourteenth Street. Its construction is fireproof, the joists being iron with terra-cotta arches sprung between them and the principal partitions, if not all, are of terra-cotta.

"The Richmond Flats," corner 17th and H Streets, were built five or six years later from drawings made by the late Mr. Carl Pfeiffer of New York. Its exterior is very artistic and pleasing. The basement and first story are of Hummelstown rock-face brownstone. The other portions of the building are of brick trimmed with the same brownstone. The whole is capped with a large steep roof of red tile broken by quaint wooden dormers. On the corner of 17th and H Streets a circular tower starts at the street and rises to some distance above the roof-level in a slender, tapering and effective tile roof, capped with an open belvedere. In style the building might be called a free treatment of Tudor Gothic. When this building was first erected, considerable dissatisfaction was expressed at the lack of light in some of the rooms and halls. Last year an addition was made to this apartment-house on the H Street side, when possibly these defects were remedied. It is a pity that this building was not erected with fireproof construction. The interior framing is with ordinary wooden joists and stud partitions. These two buildings have demonstrated the fact that apartment-houses are a paying investment in Washington, at least in fashionable localities.

"The Maltby" designed by Mr. Robert Stead, was completed in the early part of this year. It is finely situated at the intersection of New Jersey Avenue and B Street, N. E., and overlooks the Capitol Park. From its upper windows a fine view of the broad Potomac River can be obtained. Its exterior is of brick, simple, but effective. The roof-line is somewhat marred by the ogee curve given to the corner tower roof. This is different from the form of the roof shown on drawings published before completion, and was caused by an incongruity in the District Building Regulations, requiring everything above a certain height to be of iron construction no matter of what the lower portion is built. The lower twelve or fifteen feet of this tower roof could have been built of wood and the upper six feet built of iron. To avoid, possibly, an "extra" the roof was kept lower than was originally intended as the Building Inspector had ordered iron above a certain point.

Decidedly the most pretentious apartment-building in the city is "The Morton Flats" now in process of erection on H Street and 15th. It is owned by Vice-President Morton, and was designed by Hubert Pirsson & Co., of New York. The exterior is poor in design, lacking in dignity and repose, for such a large building and one so costly. Its cost is, I understand, between $250,000 and $300,000. The first two stories are of a light colored stone, above it is of brick and galvanized-iron. This easily worked sheet-metal is brought into service for belts, oriel windows, cornice, finials, dormers, and verandas. Its details are bold and obtrusive, stamped and molded metal being used with almost unlimited liberality. Although this building lacks in dignity and refinement it gives one the impression that it is determined to assert itself by its mass and overloaded tawdry finery. It is framed with wooden joist protected by a concrete of stone, ashes and cement, and hence it is called fireproof.

"The Woodmont" on Iowa Circle, is an apartment-house formed by [with additions] a combination of private dwellings. The exterior is entirely lacking in architectural effect, and the interior shows an effort to adapt rooms to uses that they were never intended to serve.

The apartment-houses described above have elevators, cafés, kitchens, and other conveniences called for in modern houses of this character.

There have been built a number of smaller flat-buildings in the last year without such conveniences. The only one worthy of mention being "The Frederick," by Mr. J. G. Hill. It is simple and refined in design, the first floor being used for stores and the three upper floors as apartments.

Washington is very much in need of a first-class hotel, not from the upholsterers' and caterers' standpoint, but from the architects' point-of-view. The hotels, with one exception, are all old buildings, built years before the War, or a combination of old hotel, old dwelling-houses, new additions and alterations. "Willard's," "The Ebbitt," "The Arlington," and others have this history. They have grown gradually as their custom demanded. It makes their exterior and interior one mass of incongruities: low ceilings where there should be high ones, stairways and steps where you would least expect them, insignificant staircases suitable for medium-size dwellings where you would expect a grand hall and stairway, odd, crooked and unexpected halls, poorly lighted and ventilated rooms and an enormous amount of combustible material ready in case of a fire. But the many curious necessities of such a growth can be easily imagined by any architect. The National and Metropolitan Hotels were built as hotels, but they are not up to the modern acceptation of the term. The Hotel Normandie, finished at the beginning of the present year, is well arranged in the interior, with all modern requirements of a hotel. The exterior seems to have been designed from the dwelling-house standpoint. The entrances, windows, treatment of projections and other details convey the impression of a number of very tall, elongated dwellings. It fails to give any idea of its purpose and is devoid of unity. "The Arlington" has commenced the erection of another extensive addition to cost about $150,000, from plans made by Harvey L. Page. From newspaper accounts the front is designed to conform with the front of the old building, — a monotonous, flat, brownstone front pierced by numerous small windows, and topped-off with an ugly mansard roof. The addition will be probably nearly as large as the present hotel.

The large building, well-planned, well-designed, well-constructed, well-lighted, well-ventilated, with proper stairways, halls, and other modern conveniences in the hotel line is still a thing of the future so far as Washington is concerned.

There have been many rumors that such a hotel would be built in the near future, but they are apparently only rumors.

THE GROWTH OF TORONTO. — "JUSTIFICATION" PLEADED TO A LIBEL SUIT. — STREET PAVING. — PAVING IN TORONTO AND MONTREAL. — THE CANADIAN ROYAL ACADEMY. — ART ASSOCIATIONS.

THE City of Toronto is at present in a state of transition from boyhood to manhood — from a village to a great commercial centre — the greatest commercial centre of the Dominion. At the beginning of this decade the population numbered about 100,000, and it was then exactly an English county town, not of the manufacing kind, but more like the cathedral cities, without, however, the prominence of the cathedral and its adjuncts. The streets, mostly avenues of shade-trees, with grassy margins to the roads, the houses of the gabled-villa style, and the shops of small three-story buildings, as a rule, its warehouses pokey and dingy, and not up too much. But though its appearance was that of a cathedral town, there was none of that delicious sleepiness and quiet about the movements and doings of its inhabitants that characterize these places, and to-day we see the result of the steady progress that was quietly proceeding, only outwardly manifested by the continual growth of private houses. The population now close on 175,000, of whom, at least, 20,000 are dwellers in their own houses, is of the most go-ahead kind, and progress is the watchword of the day. A by-law has recently been passed by a large majority of freeholders, to enable the city to raise $600,000 towards the erection and completion of the Court-house and City-hall building, in addition to the sum already in hand, which brings up the total cost of the building to a million-and-one-third. This building, together with nine other great blocks now in hand, or for which contracts are now being let, brings up the amount being laid out on these ten buildings to nearly four-and-one-half millions of dollars; and, in consequence the streets present a curious appearance, a six-story building stands next a three-story, adjoining which is a frame tenement a story-and-one-half in height. A little inn will be suddenly transformed into a great hotel, and the occupants of a tumble-down, cranky-looking club-house emerge from their obscurity and take possession of a miniature palace. Vacant land existing is not sufficient for its spreading energies, and a slice has to be taken off the Bay and turned into solid ground for the accommodation of its railway systems, while at another part water-meadows are being reclaimed and transformed into building-lots for warehouses and factories.

There is one little matter that bothers both people and Corporation extremely, and that is the material for road-paving. A libel suit has just been decided in favor of the defendant who put in a plea of "justification" on the subject of cedar-block pavements. The defendant was the proprietor of a daily paper, and courageously attacked the system under which the block-pavings were laid. This naturally resulted in a libel suit, the contractors being the plaintiffs, but the plea of justification saved the defendant, and a great victory was gained for the ratepayers over maladministration of the City Engineer's Department. As one of the immediate results, the contractors have petitioned for an additional price, declaring it to be impossible to obtain the wood of the quality specified for the figure named in their accepted tender and contract. These block-pavements are simply short cedars laid on end, and the interstices filled-in with gravel. They form fine receptacles for ordure and dirt which naturally sinks into the vertical fibres and pores of the wood, while frost or heavy rain causes them to rise sometimes completely out of the ground, at which times the block-paved streets are worse than corduroy-roads. A kind of asphalt, laid in blocks a few inches thick, has been tried, but has not been a success, and now a few streets are to be laid with asphalt, floated on hot, and in a liquid state, which, while new, makes a beautiful roadway, but it is doubtful whether it

will stand heavy traffic. It has been successfully tested as to the effect of frost upon it, and appears not to be injured at all by the weather.

Montreal, for many years, has been content with the old-style macadam-roads, and the innocence with which the Corporation went on laying down this kind of road and repairing them with cart-loads of stones dumped over holes, left to be levelled and trodden in by the ordinary traffic was worthy of the Middle Ages. Some streets are paved with granite setts, to the fearful distraction of thoughtful people who inhabit the offices on either side of street, but asphalt has been introduced and successfully experimented on in one or two streets.

People are always attempting to compare Toronto and Montreal — a very impossible feat — for as I have remarked before, the two cities are of an entirely different nature. But there is one point which is very characteristic of the cities, and upon which a comparison is possible and legitimate. I have already alluded to it with regard to Toronto. It is that while Toronto with its population of 175,000, has 20,000 people living in houses they own themselves, Montreal, out of its population of 200,000, has only 11,000 dwellers under their own roofs. In Montreal private wealth is concentrated; there live Canada's millionnaires, Canadian Pacific Railroad magnates, while in Toronto, where there is, I believe, but one solitary millionnaire resident, money is far better distributed. This affects individuals, and has no reference to companies and societies. Canada is not often visited by such calamities as so unfortunately occur so often in the United States, and on such a scale there as to have almost become proverbial throughout the world, and it is some time since we have had any great conflagration. But the recent fire in St. Sauveur, a suburb of Quebec, described in detail in the daily press, has proved just such another example of the proverb concerning shutting the stable-door when the horse has escaped, as is so frequently to be met with on this continent. No water-supply until we are all burnt out and our houses levelled to the ground, and then the Corporation instantly sets about a water-system which it would never have dreamed of but for the fire. But all disasters pale before the awful calamity of the Conemaugh Lake. A water-spout, a part of the same storm which burst the dam, swept away a part of the small town of Cobourg, on the north shore of Lake Ontario, doing half-a-million of damage, and destroying the lives of about a dozen people.

The fine arts are being practised and encouraged just now in Canada, as they have not been heretofore. Art-schools and art-associations are springing into existence everywhere, while both the Government and corporations are giving encouragement to sculptors by orders for statues of public men. A great deal more might be done than is at present, and the fine arts do not receive the encouragement they deserve; but that is a thing that will come; a country has to be educated to the appreciation of art, and to the knowledge that the fine arts are necessary to it for its thorough civilization.

The Canadian Royal Academy, whose headquarters are at Montreal, has, unfortunately, admitted into its membership men who are not artists proper, who have very little spark of the artist in their composition, as well as a few who are not artists in any sense of the word, who do not even understand the first principles of art, but, who from one cause or another, take a passing interest in art-subjects sufficiently strong to make them subscribe the small admission subscription. It has thus become a kind of mongrel society, the result of poverty, which, in the desire to accumulate funds, caused the promoters of the association to admit "artless" men. The disadvantage to the association shows itself principally in the working of sub-committees, upon which often these inartistic members get seats, and the result of the deliberations is often — as indeed, one could only expect — very distressing to artists. The small gallery at Montreal is hard to keep up, but the Academy does itself really more harm than good by admitting such men to full membership. A recent photographic group of about a dozen members of "R. A.'s" contains, at least, two figures who know about as much about art as an ordinary stonecutter. Patience is a hard thing to practise, but it is patience alone which will make a success of art-associations in a new country. The President of the Academy, who has a very fine gift for landscape-painting, Mr. L. R. O'Brien, has gone to England for the summer to make further studies of English country-scenery. He has recently had on view a collection of his paintings of views in the Rockies, made during a tour there last summer.

The Ontario Society of Artists is nowholding its seventeenth annual exhibition of paintings, and it is wonderful to see how greatly and how rapidly art is progressing in Canada in the hands of students; if only the wealthy could be induced to patronize art to a more genuine extent, we should soon have an Academy to be proud of. It is not the talent that is wanting nor the will to study for its development, but its development depends entirely upon the encouragement extended to it by the public. No greater mistake was ever made than when customs-duties were imposed upon works of art. Our students need examples badly for their study.

THE LATE COMPETITION FOR THE PROPOSED CATHEDRAL OF ST. JOHN THE DIVINE. — SOME GROUNDS FOR THE DISSATISFACTION WITH THE RESULT. — THE DIFFERENCES BETWEEN LIMITED AND OPEN COMPETITIONS.

THE results of the Cathedral competition have furnished the topic of absorbing interest, ever since the names of the four chosen competitors were wormed out of an apparently unwilling committee by the omniscient, irrepressible newspaper reporter.

There has been in the profession a very general feeling of surprise, not unmixed with disappointment, that in a competition of such importance and fraught with such far-reaching possibilities for good or evil to our art, the prizes have gone to men, for the most part inexperienced and unknown, or known only as clever draughtsmen. And this whilst others, of wide experience and tried ability are known to have taken part in the competition.

This unexpected result, together with a certain air of mystery that has seemed to shroud all the the details of the programme and all the acts of the committee, has inspired an amount of newspaper comment and criticism, that, whilst in a way flattering, as seeming to show a wide popular interest, has been on the whole unfortunate, for it has tended to befog the real issues, has given our zealous correspondents a chance to air their grievances or their hobbies and has disseminated a deal of misinformation which not always being pertinent came perilously near at times to being impertinent. As for instance, an article published while the drawings were in the hands of the committee, and before they had had time to come to any conclusions, which in an ex-cathedra manner took up the cudgels in favor of a certain style and a particular disposition of plan. This article, or editorial was, without a doubt, honestly and innocently written, it showed more than a passing familiarity with architectural styles, and was both earnest and readable, but in spite of the absence of intention to offend, probably much to the writer's surprise and disgust, it had, and it seems to me rightly, to many readers the appearance of an attempt to influence the minds of the jury, as had also the doubtless equally innocent publication in one of our dailies, of a reproduction of one of the competing designs, with appropriate reportorial elucidation.

After the names of the four selected competitors were made public, the newspaper comments took an even wider range, and all the picturesque aspects of the contest were brought out and made the most of. Without a shadow of reason, without an atom of reliable evidence it was affirmed or insinuated that all the participants were ignorant or biased, while little or nothing was brought out tending either to explain the feeling of disappointment that existed very generally, or to remove it.

To-day that feeling still persists in all its force and I should not be surprised if it had even infected the committee itself, and made the gentlemen who compose it, feel, individually and collectively, that it might be an open question whether the great outlay of talent, of time and of money on the part of all concerned, was destined to produce commensurate results.

There is one factor, as far as I have been able to see, that more than any other single one has tended to bring about the present state of dissatisfaction and that is the action of the architects most immediately concerned. I mean the originally invited competitors.

In order to point out what seems to be the weakest link in the chain, I shall have to go back to the first steps taken and follow the competition through all its stages, and I would say here that I put forward my arraignment of the profession in all diffidence, having found the greatest difficulty in getting reliable information upon many important points.

It was generally understood when the programme was first sent out, that Professor Ware had drawn it up, and this I have no doubt influenced the invited competitors not to cavil at conditions which might seem unwise to them, but which were new and untried and therefore not proven to be bad.[1] It was most unfortunate, whatever the reason, that the programme was not thoroughly discussed by the invited architects and its provisions weighed, and where found wanting their objections and the reasons for them brought to the notice of the committee. The members of the committee are not only exceptionally intelligent and fair-minded men, of the highest standing, but they showed in the programme an evident desire to make every reasonable concession to the architects, in order to secure the best possible results. They were hampered, without definitely realizing it, by not knowing exactly what kind of a cathedral they wanted (how far to carry the compromise between church traditions and modern innovations) and still more by finding in architectural practice no definitely developed rules for the conduct of competitions, and no consensus of opinion on the subject amongst such of the architects as they sought

[1] It transpired later that Professor Ware while discussing with a member or members of the committee the conditions of competitions in general was in no-wise responsible for the programme of this competition in particular.

guidance from. The resulting programme seems to have been a patch-work of entirely good but partly irreconcilable conditions.

The first of these difficulties, while forcing them to leave their instructions vague in important particulars, was unavoidable, and seems to have been judiciously met by the proposed selection of four equally favored designs. The other difficulty should have been remedied, it seems to me, by concerted action on the part of the invited competitors, who had a splendid opportunity to render a most valuable service, the good influences of which would have been felt in all future competitions. A protest against such of the conditions as seemed objectionable would, if properly undertaken, have increased the respect of the community for them and for their profession, while the present status is harmful to us all, and diminishes our power for good.

Of course, whether it is an unloaded gun, an innocent live wire or a subway man-hole, it is much easier for the onlooker to explain the case to the coroner's jury, than for the victim to profit fully by his past experience. One cannot say, "I told you so," or use the *ex post facto* argument in any form without feeling a little mean, and my only excuse for doing it now, is that the weaknesses I see now, I did not see before, and they are not isolated instances but part and parcel of our development as a profession. The full discussion therefore of any short-comings there may be in the competition, one phase of which has just been watched by us all, will help to clear the way for more intelligent future action, whether this particular complication ever recurs or not. The programme for the Cathedral competition seems to me to be fatally defective in the following particulars:

First. In trying to unite a paid competition amongst invited competitors, with an unpaid competition open to all comers. Either one may be brought to a successful issue, but only under entirely different conditions. In the former the selection of a certain limited number of competitors presupposes that any one of them would become the architect of the building to the satisfaction of those inviting him, and that his work or his attainments have satisfied them upon that point. All the competitors start fairly and equally and the sending of designs under a cipher is meant to continue that fairness and equality up to the moment when one competitor is chosen. There is no more reason in such a competition for holding a public exhibition of the designs than for chosing the competitors by public ballot. A public exhibition after the selection of the design or the award of prizes is interesting and justifiable in the case of quasi-public buildings.

In the other, the open-to-all competition, there is no guaranty whatever that the originator of the design selected will be qualified to undertake satisfactorily all the duties of architect. The design may be the unquestioned best, the indications of construction, or the estimates, or specifications may be all that could be desired and yet the designer himself not satisfy the requirements of the responsible committee: whether it be his youth or inexperience or the color of his hair, they will not and should not be asked to accept him, unknown and unsought by them, just because after a careful comparison and a full opportunity for investigation they have chosen his design. The open competition, naturally, if its conditions are fair and the prize important will be liable to attract a large number of competitors, a large proportion of whom will be comparatively young and inexperienced. If everything is fair the chances are in favor of a certain number of unknowns being chosen. The public exhibition before the award in such a case would seem to be a most excellent safeguard against the dissatisfaction which is otherwise almost sure to develop in some quarter. I am assuming that the open competition we are discussing is for a building of sufficient importance to attract public attention. If the public interest centres on one or more of the designs, their preference is worth knowing and weighing, if it does not, that fact alone makes any general complaint impossible. The cipher is of but little use where there is a public exhibition as the favorities are sure to be known, on the other hand, it is not nearly so valuable a safeguard as favoritism is much less to be feared in the face of public comment.

The building cannot, in an open competition, be unrestrictedly given to the author of the successful design, and that is the weak point of such competitions in this country where there is no recognized standard of professional proficiency. Perhaps safeguards could be elaborated, such as examinations or the right to associate another and qualified architect with himself, which would make it reasonably safe and sure to appoint the successful designer.

Second. The pledging of the committee not to exhibit the designs without the consent of all the invited competitors. This question should not have been left open, but should have been settled by the common action of the architects themselves before getting to work. As it is, being, I believe, about equally divided, both sides feel that they are hardly used. Whether to exhibit now or not is, as I have indicated above, dependent upon the other conditions. In this instance it has certainly been unfortunate and the direct cause of much of the dissatisfaction, that the committee have felt that they were pledged, until relieved by the unanimous action of the invited architects, to the profoundest reticence as to all their actions. So that a great competition in which every intelligent person was interested has been and still is shrouded in mysterious gloom.

Third. There seems to have been an intention on the part of the committee to get from the architects the slightest sort of sketches giving motives only with but a hint of detail, and from amongst these to select a limited number for further elaboration. This intention, as I say, was obvious, but it was not made binding and there was plenty of time; the result was that each competitor used all the time he could, feeling sure that some at least amongst them would have carefully worked-out drawings and not wanting to be left at too great a disadvantage in point of rendering. An architect could have made this part of the programme so as to obtain more equal results, and consequently a fairer chance for comparison. The moral of it all is, that we should all of us put our shoulders to the wheel and not spare ourselves; whenever we have a chance use it to bring about collective and united action in such direction as seems best. Let us act through the Institute, the Chapter, the League or through fortuitous groups brought together through the prospect of engaging in competition, but let us always act together.

With full liberty of discussion, in constant intercourse with men of the most diversified callings, in a quasi-judicial position between our clients and their contractors, we are in no danger of becoming narrow and can surely, if slowly, build up that necessary body of traditions and precedents which will be recognized and accepted by the public as soon as we learnto live up to them ourselves.

EQUESTRIAN MONUMENTS.[1] — XVII.

Statue of Francis I, Prague, Bohemia. Kranner, Sculptor.

ABOUT all that is known of the equestrian statue of the Emperor Zeno which once crowned the Palace of Theodoric, the foundations of which to-day bear the Castel San Pietro at Verona, is that it was so large that pigeons flew through its wide-distended nostrils to their nests in the belly of the horse. But Verona claims attention here not by reason of what is no longer there, but because it possesses a famous group of sepulchral monuments which bear equestrian statues and which are the type of a small number of similar structures of a later day which may be considered together with them.

Crowded together in a little square at the side of S. Maria Antica, enclosed within a high grating of exquisite trellis-work in wrought-iron, interwoven in which are innumerable small ladders — the symbol of the family — stand the monuments of the Scalas, for more than a century the rulers of the territory. Descended from a plebeian ancestor named Villani, who made a fortune by dealing in ladders, the family boldly avowed its origin, adopted the ladder as its token and is commonly known in history as the Scaligers, or ladder-bearers. The tombs of the earlier members of the family are lowly in form and unpretentious in design, but like the actual sarcophagi of the more elaborate monuments their sides bear in very low relief sculptured scenes of not a little artistic value. It is not unnatural that

[1] Continued from No. 702, page 272.

the first one of imposing character should be that of the most noted member of the family, the famous Can Grande, who was not only a capable leader and ruler but also a patron of the arts and as such deserved the monument erected to his memory, a monument which Ruskin characterizes as the "consummate form of the Gothic tomb." This monument [1329] is built over the entrance doorway to the little graveyard and in design sets the example followed by the two other equestrian monuments of the group by representing the prince both in life and in death, for above the recumbent figure which lies upon the sarcophagus is reared a steep-pitched canopy upon the summit of which is borne the more than life-size equestrian figure of Can Grande, with his winged helmet slung to his back. There is a well-studied simplicity about this monument which makes it stand out in agreeable contrast with the florid exuberance of the latest of the three monuments, the one which Can Signorio caused to be erected during his own life-time and, after the manner of Louis XI of France, who as a safe-guard against future torment used to wear about his hat a band of leaden saints, adorned the structure with the effigies of saints and virtues whom he had totally disregarded during his life. The tomb of Mastino II [1351], by Perino of Milan, stands between these two both actually, chronologically and as a matter of art; like the others it is crowned with an equestrian figure on the summit of a canopy which shelters the recumbent effigy of the prince. It is one of the commonest features of life in all times that the founder of a family, the gatherer of wealth, the respected member of society of his time should be succeeded by a degenerate son whom the surroundings of his childhood's home have prevented from acquiring the steadfastness and ruggedness of character which less favorable circumstances — as the world calls them — engendered in the sire. Such an observation might be made with reference to Mastino II, although he was not the immediate successor of Can Grande. The possessor of a larger income than was enjoyed by any potentate of the day, it was not unnatural that Mastino should be able to procure the pleasures which wealth, power and the lax morality of the Italian society of the day placed within his easy reach. Success in the lists of love, which he was prone to enter at every chance, secured him many enemies and involved him in many contentions which caused the loss and absorption of much of his wealth and power, so that though his court was the largest and most famous for the rank and quondam power of its attendants — at one time there were not less than two-score dethroned princes who had sought haven at his court — the reckless license of his life had greatly diminished the patrimony which passed on to his successor Can Signorio. Still Mastino was in many ways an able ruler and the internal condition of the Veronese territory never before touched so high a mark, and if it is ever proper to commemorate the existence of a ruler without scrutinizing too closely the moral propriety of so doing, Mastino has certainly as good a right to his monument as had the Duke of Brunswick, and better than Can Signorio who had such becoming doubts as to his own worthiness being recognized by posterity that he found it desirable to erect his monument during his own lifetime. Of the entire group, Street says: "What either Cologne, or Ratisbon or the Wiesen Kirche at Soest is to Germany, the Choir of Westminister Abbey or the Chapter-house at Southwell to England, Amiens Cathedral or the Sainte Chapelle of Paris to France, that is the Cemetery of the Scaligeri in Verona to Italy, the spot, that is, where at a glance the whole essence of the system of a school of artists may be comprehended, lavished on a small but most stately effort of their genius."

Of the monument of Can Signorio by Bonino da Campione, the latest [1375] and most elaborate of these monuments, Street says he is "afraid it is the most commonly admired." By one man, at least, who was able to give expression to his feeling, it certainly was admired. When the will of the exiled Duke Charles of Brunswick, who for three years had found a home in Geneva, was opened, in August, 1873, it was found that he had bequeathed his large wealth to that city on certain conditions, one of which was stated in the following terms: "It is our will that our body shall be deposited in a mausoleum raised above the ground which shall be erected by our executors at Geneva in a prominent and dignified position. The monument shall be surmounted by our equestrian statue and surrounded by those of our father and grandfather, of glorious memory, after the design attached to this testament, in imitation of the tomb of the Scaligers at Verona. Our executors will build the said monument in bronze and marble by the hands of the most eminent artists, using as many millions of our estate as may be necessary."

Here, then, was a man who since he was deposed in 1830 in favor of his younger brother had travelled widely and frequented cultivated society, yet selected the tomb of Can Signorio as the one of all others he would chose as a model for the resting-place for his own ashes. The selection of the model is almost as much a mystery as his reason for bequeathing his wealth to a city with which he had but a short and chance connection. Perhaps the first mystery can be explained by the supposition that he saw that the execution of a similar monument offered a grand chance for consuming a vast amount of money — and so preventing his municipal legatee from misspending too much of its bequest. For the second mystery no better solution has ever been offered than the tale that once when he was visiting the Cathedral of St. Pierre in Geneva, his attention was attracted by some well-preserved monuments which, he ascertained, had been in existence for hundreds of years. This information is surmised to have suggested that here was a peace-loving community who, without its being particularly made worth their while, yet preserved monuments for hundreds of years, and that here, therefore, was just the place where one who was thinking of perpetuating his name by a posthumous monument might hope for its longest survival — particularly if a bribe were judiciously administered. The whole affair looks like the act of a vain and rather foolish man.

Otho I in the Market-place, Magdeberg.

Be this as it may, the city accepted the bequest and placed the work of erecting the monument in the hands of M. Jean Franel, architect, who carried it out to a scale one-fifth larger than its model. He secured as his assistants: M. Cain for the equestrian statue, the lions and the chimeras; M. Iguel for the sarcophagus and the bas-reliefs, and MM. Thomas, Millet, Schœnewerk and Riesling for the statues of the Duke's ancestors; M. Topffer for the medallions, and M. Custor for the rest of the work.

Except in the matter of scale, the modernizing of some of the detail, and the individualizing of the sculptures so as to have application to the Brunswick family, the structure at Geneva is a close copy of the one at Verona, almost the only effort at originality being the introduction of the lions and chimeras as auxiliaries, and the way in which basins of water of different shapes and sizes have been combined with the monument itself, which looks out from the Place des Alpes over the lake.

The equestrian figure itself is a good one, and the horse is one of the small class of motionless animals which, when properly handled, are more satisfactory than even the successful ones which indicate locomotive effort of more or less pronounced character. Where the horse is quiescent, the rider, in whose honor the monument is created, obtains more consideration from the observer. In this case, however, the altitude at which the horse and man are set give them about as much value as an ordinary weathercock.

In the cases of the tombs of the Scaligers and of the Duke of Brunswick the equestrian figure crowns the composition, while the tomb proper is sheltered beneath the canopy. In two other cases, the Otho I at Magdeberg and the Francis I at Prague, use is made of the canopy to shelter the equestrian portions of the monument.

While searching for connecting links between the sculpture of the later Roman Empire and the early part of the mediæval period it at first seemed likely that the only existing statue that could be credited to the Dark Ages was that of Otho I at Magdeberg, which has sometimes been ascribed to the tenth century, and, in such case, would possibly have been erected during Otho's life or shortly after his death. The evidence of historic facts and the internal evidence afforded by

the statue itself, however, refute this theory, though they do not deprive it of the honor of being one of the oldest portrait statues on horseback of the mediæval period. When the monument was repaired in 1858 by a Herr Holbein it was found not to be a monolithic statue, as had been supposed, but one built up out of seventeen pieces of sandstone held together by iron dowels, and an analysis of the stone showed it to be of the same composition as that with which the thirteenth-century portions of the cathedral were built; this, taken in connection with the evidence afforded by the style and workmanship of the group, makes it probable that the statue was cut at that time, and probably by some of the sculptors who were employed on the cathedral. The fact that the entire town was twice destroyed by fire, once in 1180 and again in 1207, while the monument bears no signs of injury, is testimony, also, against a very early date, though, as the monument was restored in 1540 and in 1651, as well as in 1858, there is no reason why the wounds of both fire and time should not have been healed over and over again. Although of stone, the statue is gilded, and when at its latest restoration the gilding was renewed traces were discovered of an earlier red coating, which was supposed to be merely a coat applied to prepare the stone surface for gilding. But the fact that Otho the Great, as did Charlemagne and Louis XII, took a leading part in the actual administration of justice, connects him intimately with the history of

Charles, Duke of Brunswick, Geneva, Switzerland. M. Cain, Sculptor. From the *Algemaine Zeitung*.

the derivation of German law, and in the early legal annals he is spoken of as "*rufus*," and sometimes as "*sanguinis*," so that it is not at all improbable that the red coating was not a preparation for a coat of gilding, but was at one time the final color of the statue — at a later day it is known to have been painted white, to ape marble. This association of the statue with the law of the realm has other support in that the monument is supposed to stand on the spot where in Otho's time stood "the scaffold under the lime-tree on the market-place" — the tree of blood where sentence of death was carried out. It is thought, too, that the large cloak worn by the emperor was intended to typify his judicial attributes.

The amiable family affection or, more likely, the less amiable pride of race that led the Duke of Brunswick to surround his monument with statues of "our father and grandfather, of glorious memory" was also exhibited in the case of the monument of Otho I where the shaft that supports the canopy and its enclosed equestrian statue is reinforced by pedestrian statues of the Emperor's more or less illustrious ancestors — some quite as savage and uncivilized as illustrious.

A variant upon the same theme was effected at Prague where, in 1850, on the Franzensquai, was erected a monument to Francis I, where the encompassing auxiliary statues were made to represent not the worthy forebears of the Emperor but the sixteen districts of Bohemia, while the Virtues with which Can Signorio inconsequently surrounded his own sarcophagus and which are recalled by the two female figures that lead the horse of Otho, are in the case of the Bohemian monument replaced by allegorical figures which represent the hackneyed typical groups of the present more material day. A sermon could be based on the substitution of the groups that now everywhere symbolize Art, Commerce, Industry and Science for the figures that in a less sophisticated age stood in similar positions for the cardinal virtues. It was only a fashion, to be sure, and probably often hypocritically followed, but it really seems as if artists must have been able to produce nobler work when they were habitually trying to typify some ennobling Christian virtue, as Justice, or some merely savage one as Courage, than when they are trying to glorify Trade — with its suggestions of greasiness and evil smells.

The monument, seventy-seven feet high, Gothic in style and suggesting in general the Eleanor's crosses, was designed by Kranner, and the statues were the work of Joseph Max, father of the well-known painter of to-day, Gabriel Max.

CAN GRANDE. — Can Francesco della Scala, called the Great, was the most illustrious of his family. He was appointed captain of the league made by Verona, Mantua, Brescia, and other towns against the Marquis of Este, Lord of Ferrara, whom he defeated and obliged to withdraw to Ferrara. He subsequently became the head of the Ghibelline party in Lombardy. In 1329, he took Treviso, but was a few days after seized with a violent fever, which carried him off at the age of 39. He was a liberal patron of literature and the arts, and his court was attended by poets, painters and sculptors. Dante and Boccaccio have both written of him.

DUKE OF BRUNSWICK. — Charles, eldest son of Duke William Frederick, was born in 1801. He was educated in England with his brother William, but displayed such frivolity of character, that his guardian, the Prince Regent, delayed putting the government of Brunswick into his hands until more than a year after he had attained his majority. In 1830, his subjects, weary of his extravagances, rose against him; he fled, and in the following year was deposed by the German Diet. During the remainder of his life he resided chiefly at Paris and Geneva, immersed in pleasure, and on his death (in 1873) bequeathed his immense property to the latter city.

AUGUSTE NICOLAS CAIN. — Born at Paris in 1822. He was a pupil of Rude and Guionnet. He is in the very first rank of sculptors of animals, and has produced a great number of works, gaining several medals at the *Salon*. The Luxembourg contains his "Vulture on the head of a Sphinx"; and in the Tuileries garden may be seen his fine groups of "A Lion killing a Crocodile," and "A Lion bringing a dead Peacock to its Cubs." Two of his most important works are "A Rhinoceros attacked by Tigers," and "A Lioness and her Cubs with a dead Boar."

CHARLES FRANCOIS MARIE IGUEL. — Born at Paris in 1827. A pupil of Rude. Medals in 1864 and 1868. Among his works are "Le Chasseur," a statue executed for the "Cour du Manège" of the Louvre; statues of St. Albert, St. Paul and St. Peter; a number of decorative sculptures and many busts.

ALEXANDRE SCHŒNEWERK. — Born at Paris, 1820. Pupil of David d'Angers, Jollivet and Triqueti. His principal works were "The Young Tarentine"; "Rape of Dejanira"; "Lulli" (in the Grand Opéra); "St. Thomas Aquinas" (for the façade of the Sorbonne); "Hesitation"; and "Mime-Dompteur." His statues entitled "Young Girl at the Fountain" and "In the Morning" are in the Luxembourg. Schœnewerk died in 1885.

JEAN FRANEL. — A Genevese architect died in 1886. Besides the Duke of Brunswick Monument he was the architect of the University in the same city.

AIME MILLET. — Born at Paris about 1816. Pupil of David d'Angers and Viollet-le-Duc. He made his début as a painter at the *Salon* of 1842 and continued to exhibit pictures until 1852. It is as a sculptor, however, that his chief fame has been gained. His plastic works include "Ariadne" and "Cassandra placing herself under the protection of Pallas," both at the Luxembourg; "Vercingetorix," erected at Alise-Sainte-Reine; the tomb of Murger; "Apollo and the Muses of Poetry and Dancing," on the Grand Opéra; a statue of Chateaubriand, erected at St. Malo; one of Denis Papin, at Blois; the tomb of the Princess Christine de Montpensier, at Seville; three colossal figures of Prudence, Commerce and Finance for the façade of the Comptoir d'Escompte de Paris; a statue of "Physics" for the Nice Observatory; the tomb of a Prince of Saxe-Coburg Gotha; a statue of George Sand for La Châtre; one of Edgar Quinet, at Bourg; one of Phidias for the Luxembourg garden; and "Civil Justice," made for the Maire of the First Arrondissement of Paris.

FRANCIS I, Emperor of Austria. — Born in 1768; was the eldest son of Leopold II, then Grand Duke of Tuscany, who became Emperor of Germany in 1790. Leopold dying in 1792, Francis was elected Emperor of Germany under the title of Francis II. He joined Frederick William II of Prussia in the war against France, but was compelled to conclude the peace of Campo Formio, in 1797. He renewed the war, in alliance with England and Russia, in 1799, but was again obliged, by the defeats of Marengo and Hohenlinden, to agree to the treaty of Luneville (1801). In 1804, he proclaimed himself Emperor of Austria (Francis I), and, after the disastrous campaign of 1805, and the establishment, under Napoleon's protection, of the Confederation of the Rhine, he issued a manifesto, declaring that he abandoned the title of German Emperor, and the dignity and position of head of the Holy Roman Empire (1806). In 1809 a fresh outbreak of hostilities with France was followed by the humiliating peace of Schönbrunn. Francis reluctantly granted Napoleon's request for the hand of his daughter, Maria Louisa. In the German "War of Liberation" (1812-14), Francis, with Frederick William of Prussia, was at the head of the movement, and was present in person till the end of the campaign. In 1814, he returned to Vienna, amid the rejoicings of his subjects, and after the conclusion of the peace of Paris, found all his losses made good to him. The remaining years of his reign were prosperous. He died in 1835, endeared to his subjects and the idol of the Viennese.

[To be continued.]

GILDING LAW.

TERRE HAUTE, IND., May 29, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — A builds a block of tenement-houses, and employs B, an architect, to prepare plans, let and superintend the works, C is contractor and D a sub-contractor. The specification has this clause in it: "The contractor or his sub-contractors, and his and their workmen must agree (and this writing is the agreement) that they shall remove from the building any work or material not in accordance with the plans, details, elevations, all drawings and specifications. And they must agree, that the opinion and decision of the architect is binding to them, as well as it is to the proprietor." The sub-contractor D. signs a contract with the main contractor C, to the same effect; that is, that the opinion and decision of the architect is binding to all, etc.

The specification further reads, that it must not be understood that the sub-contractors will receive certificates direct from the superintendent. The main or principal contractor, only, will receive these, assigned for the special benefit of the sub-contractor.

Now D, the sub-contractor, quarrels with C, the main contractor, as to certain works to be done and which he (D) tries to avoid: finally he is compelled to do them, and gives final receipt for all his work, including all disputed matters. A day after, D, the sub-contractor, calls on the architect with a bill of extras, one-fourth of which the architect acknowledges as correct, and three-fourths as incorrect, and then because the architect refuses to agree on the whole, D sues the principal, A, for a number of items and damages in which all the disputed matters settled with the main contractor C, figure again.

The question before the architect B, is this:

Question. — 1. *Shall the specifications and contract, stand good before the law, where it says that the main contractor shall only get certificates to be assigned to the sub-contractor?*

2. *Shall the agreement of A with the main contractor and his sub-contractor, "that the opinion and decision of the architect is binding to them, as well as to the proprietor," remain valid in law?*

As you have a legal gentleman attached to your editorial staff, we will be pleased to see the *American Architect's* answer to these questions as it is a matter in which every citizen making a contract for a building, is interested. Respectfully, V. & S.

Answer. — We do not find anything in the contracts and other facts referred to in the above communication to prevent D, the sub-contractor, from collecting his claim from A, the owner, providing he can satisfy a jury that the work which he claims as an extra was ordered by the owner or by the architect, and in the latter case that the architect had authority to give the order. The terms of the contract and the fact that there was any contract at all between the plaintiff in the action and the principal contractor, would have nothing to do with the case except as evidence tending to rebut the plaintiff's claim that the work in question was done under contract between him and the owner. The decision, however, in such cases is always with the jury; a written contract between the plaintiff and some third party is evidence merely and not conclusive; and if the jury believes that the owner and plaintiff entered into a separate and distinct arrangement for the work in question they will find for the plaintiff.

The clause in the sub-contract subjecting all matters of dispute to the decision of the architect would have no binding force in any action between one of the parties to this contract and a third party. The owner not being a party to the contract could take no advantage of the clause.

Whether the receipt given by the sub-contractor to the main contractor covered the work in question would also be a question for the jury; if the work was outside the sub-contract and undertaken under a direct arrangement with the owner, of course a receipt given to the main contractor would not bar the sub-contractor from recovering the price agreed upon with the owner.

We are therefore compelled to answer both of the questions which our correspondent puts at the end of his communication in the negative: that is to say, the specifications and contract would not "stand good before the law," nor would the decision of the architect be binding, at least in the sense which our correspondent means. This whole question like most of the disputes that are continually arising in the building trade, is one of fact simply; and the best way to avoid them is for the architect not to get a general authority from the owner to order extras, but whenever anything is needed that is not in the contract, to make a new formal contract in writing either with the main contractor or some other person.

SOCIETIES

THE SYRACUSE SKETCH-CLUB.

AT Syracuse a sketching-club has just been formed, to be known as "The Syracuse Sketch-Club," and to be composed of the draughtsmen (both architectural and mechanical) and a few others interested in art matters of our city. This is a subject that has been long thought of and talked about, and now that we have made a start it is our purpose to make a success of it. These gentlemen were chosen as officers for the first year: James A. Randall, President; James A. Johnson, Vice-President; William H. Lord, Secretary and Treasurer. You will confer a favor on the draughtsmen by noticing this. Yours truly,

William H. Lord, *Secretary and Treasurer.*

BOSTON ARCHITECTURAL CLUB.

The Boston Architectural Club held its fortnightly conversazione Thursday evening, June 13.

Mr. C. Howard Walker gave an informal talk on Italy, illustrating his remarks with stereopticon views. Speaking at first of the impressions one gains from modern Italy, he passed at once to Rome. Dividing the architecture into three periods: Classic, Gothic and Renaissance, he dwelt at length on each. He showed views of the Roman Forum, explaining the modern excavations and discoveries; then taking each of the principal buildings and triumphal arches, related their history and explained their architectural characteristics. Passing to Pompeii, and showing the principal buildings of that city, he took up the Gothic period and illustrated by views of the principal cities where this period reached its highest development.

The principal works of the architects of the Renaissance were then discussed, and the different phases it took in Rome, Florence, Venice and Sienna. The views were well arranged and admirably selected.

An exhibition is being held at the club-rooms of a number of water-colors made by Mr. Dwight Blaney, while on a recent trip to the Bermudas.

TRADE SURVEYS.

The tenor of commercial, financial and railroad returns for the past six days puts a decidedly better coloring upon general trade and manufacturing conditions of the country. Quite a number of statistical returns have been published, a study of which indicates the general drift of trade which has heretofore been observed. The conclusion drawn from the bulk of this information is that, first, the volume of traffic has begun to increase, that margins in several lines of trade are a little more satisfactory, that the crop reports are more promising, that the distribution of merchandise throughout the interior of the country has improved, that money is easier both in financial centres East and in distributing centres West, as railroad-builders are regaining confidence for the operations of the coming six months; that failures, considering the amount of business transacted, are declining, and that the condition of the wage-workers throughout the country is better than thirty days ago. There are a number of other points that might be mentioned as showing the growing strength in the general business situation, but the above are sufficient at present. The gross earnings on 130 railroads show an increase of nearly one-and-a-quarter million dollars. The actual earnings in May for these roads footed up $31,483,240. The mileage is 77,403 miles, or nearly 3,000 more than last year. The earnings increased 5.61 per cent; the mileage, 3.70 per cent. Nine Northwestern roads earned more this year than last, which is saying a good deal considering all the unfavorable reports that have been received. The Southern railroads do not show such favorable earnings. For five months 129 roads earned $9,788,197 more than last year. A great deal might be added concerning the earnings of individual roads, but reports are more instructive. In a general way the railroad situation throughout the country is improving. There is no doubt now entertained on Wall Street that the traffic for the coming six months will exceed the traffic of the same six months last year. Strange to say, this confidence is not influencing stock speculators. Good stocks are not to be had, and poor stocks are not wanted. The outside public are still refusing to speculate. English capital is seeking other than railroad-building channels. Railroad-building for the next six months is very uncertain. Last week, contracts for 20,000 tons of steel-rails were placed in Eastern mills. This week, from present indications, about 40,000 tons will be placed, three-quarters of which will be for Western and Southern roads. The trunk-lines, between New York and Chicago, will buy very soon from 10,000 to 15,000 tons of rails to repair with. Rails are hardening in price. Small lots are selling now at $28, as against $27 a month ago. The additional allotment recently granted will allow urgent buyers to obtain what they need for midsummer work. The coal situation is not satisfactory. The consumption as compared to last year is somewhat less, being due to the diminished output of iron and steel. The small shop, railroad and general manufacturing requirements are fully up to last year. The anthracite regions have been put in better producing shape, but the cost of production has not been decreased, in fact, it has gradually increased owing to the great depth at which coal is to be sought. There is a great stir among the miners of bituminous coal, and within the last thirty days four or five companies have been organized to develop new territory, most of it in Virginia and Kentucky. Small companies are organizing in the far West, and the disposition to develop mining territory heretofore referred to is growing.

In the lumber trade the demand has not improved as much as timber speculators anticipated. Building operations are absorbing all that was expected, but the wholesalers and retailers are catering to this trade, instead of buying large quantities are buying only such lumber as their customers will want. For this reason stocks in large cities are declining. The wholesalers have discovered that when they buy heavily they will crowd prices up on themselves. In order to protect themselves they are buying only for requirements. The attempt in Georgia to combine on yellow pine has been practically a failure. Outsiders came in and offered lots to-day at last year's prices. They are still doing this and no doubt will continue this policy till the close of the season. The strong companies there have the alternative of either dropping prices or finding stocks accumulating on their hands. Besides this, great developments are being made in Mississippi, Arkansas and to some extent in Texas, and the supply of cypress, yellow pine and other woods in Western markets is crowding out white pine and influencing white pine quotations. During the past two weeks reports have been received from a number of leading architects in Chicago, St. Louis, and from architects in the far northwest territory. They report a very active distribution of iron and steel, merchant steel, sheet-iron, barbed-wire, and farm and building equipments as well as builders' hardware. The small machine-shops between Pennsylvania and the Mississippi river are crowded with work. The ship-work now in the lake ship-yards is as good as it could be. The leading iron-works making structural shapes are also as crowded with work as they have been at any time for years. In Pennsylvania some 20,000 or 30,000 tons of material will be placed under contract before the first of September. Builders are crowded with work as fast as possible. No strikes have occurred, and it is now an assured fact that so far as the building trades are concerned there will be no trouble up to the close of the season. Information from labor sources seems to point to a determination upon the part of labor organizations next year to precipitate an eight hour legislation. A reactionary tendency is at work among certain labor organizations, but at this writing it is not possible to say whether the conservative or radical elements will win. The radical element is made up largely of foreign workmen who believe that the present opportunity is the most opportune for the establishment of an eight-hour working-day. The American element are not contributing as largely in such a revolution but are willing of course to profit by it and probably will bring up the rear should a general strike be resolved upon. The brick-makers throughout the country are hurrying forward work on spring contracts and thus far have been able to meet all requirements. The demand for cements, lime, lath and shingles has been extraordinary and notwithstanding the heavy distribution of such stocks supplies are now as full as they have been at any time this year. Within the past thirty days heavy shipments of mining machinery have gone into the far West to new companies which are now negotiating for large quantities of new machinery in a very expeditious and economic manner.

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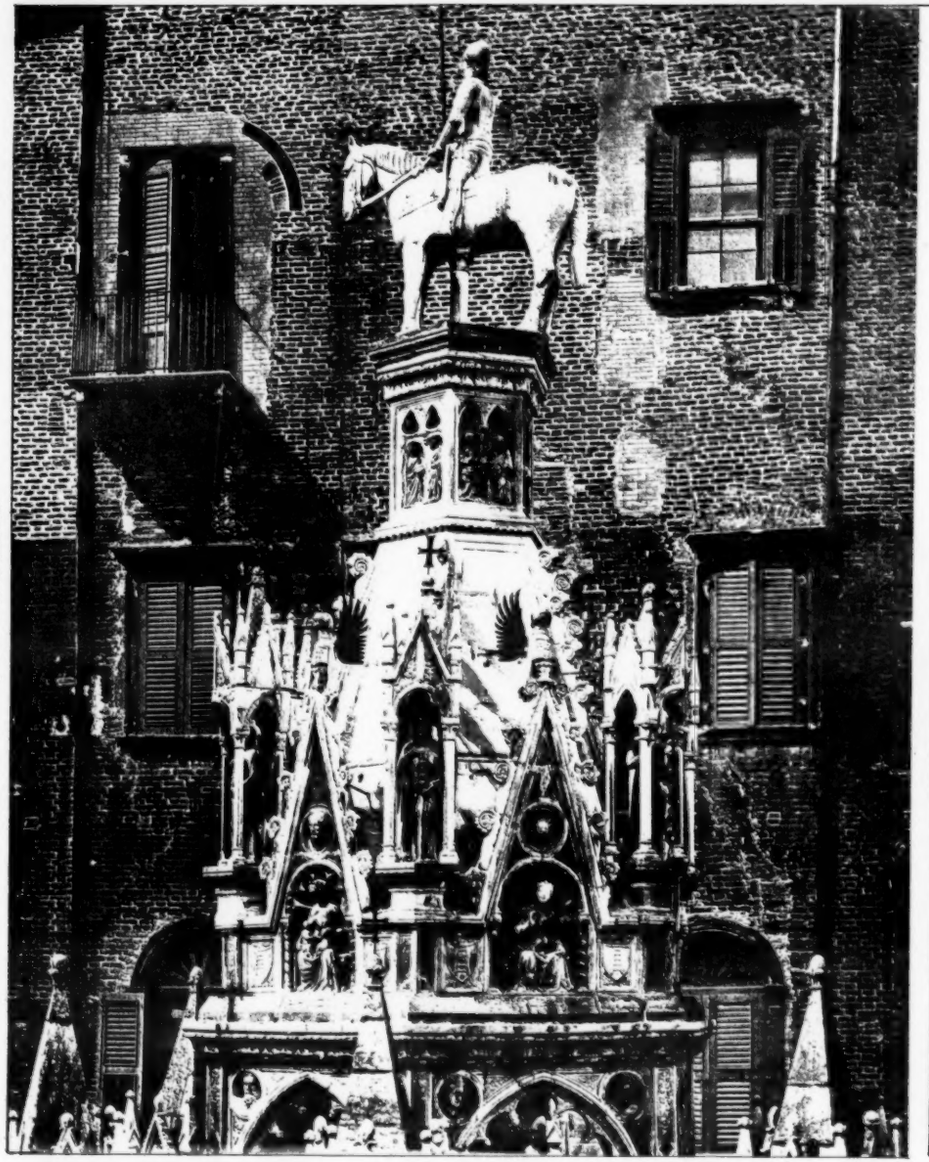
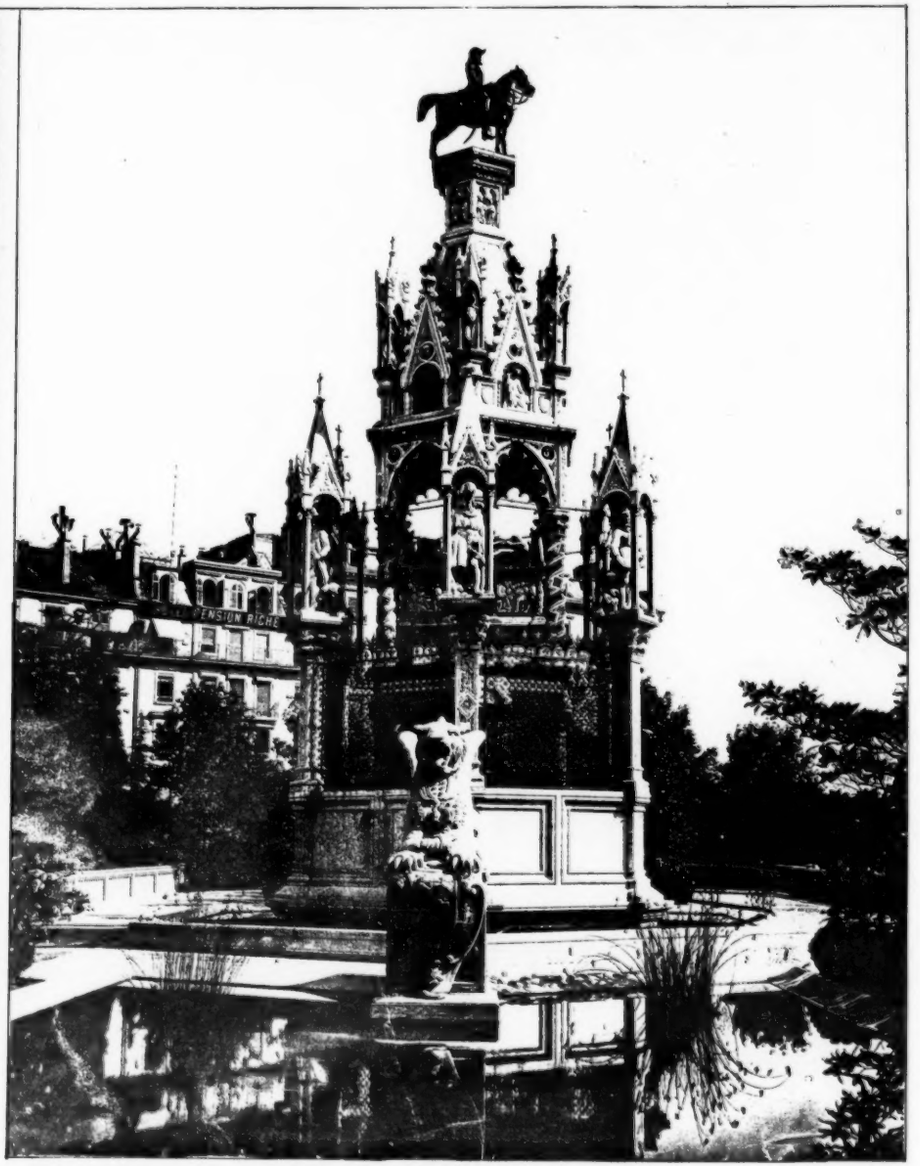


PART OF TOMB OF CAN SIGNORIO, VERONA, ITALY.



MONUMENT TO THE DUKE OF BRUNSWICK, GENEVA, SWITZERLAND.

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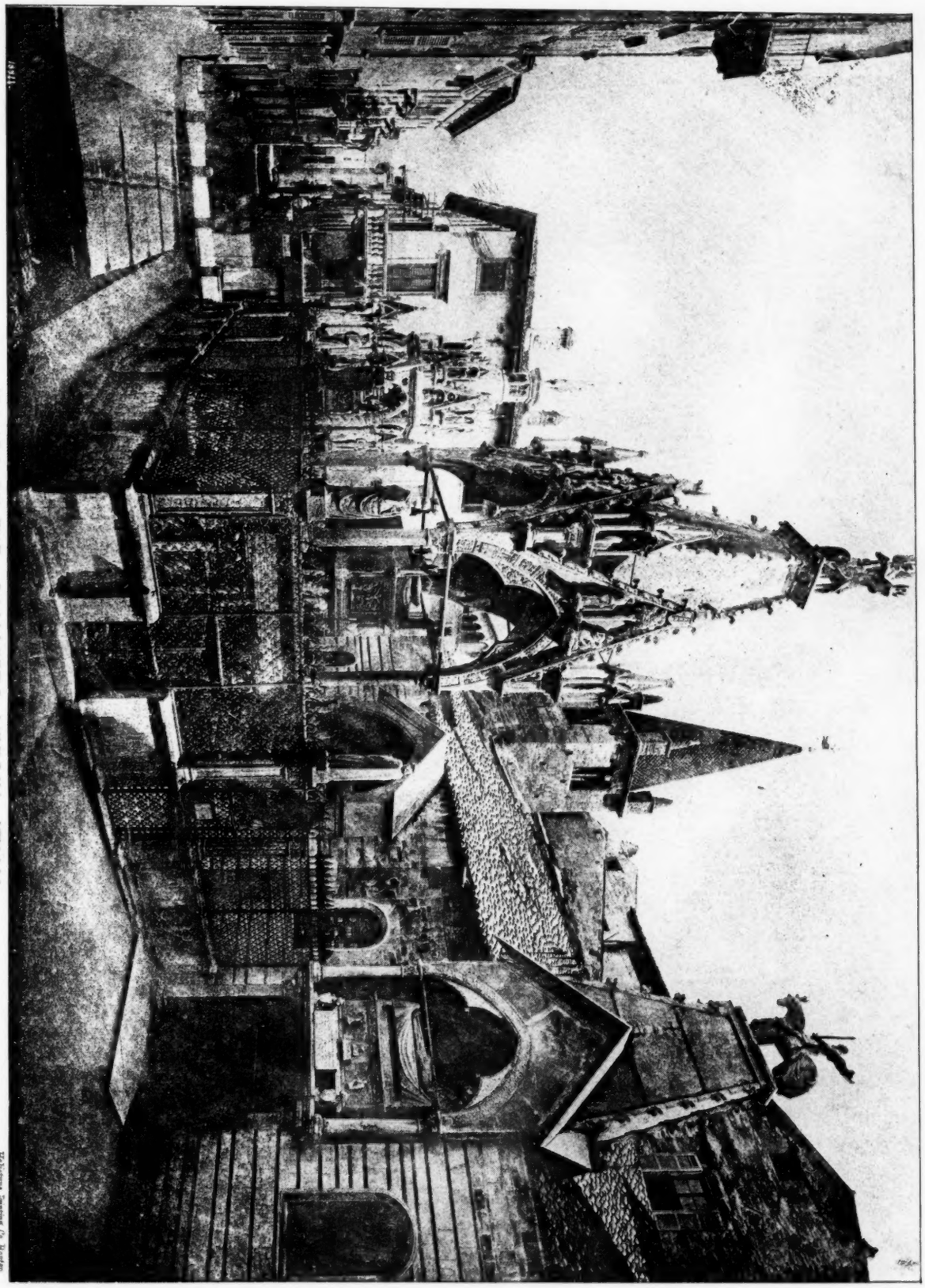

TOMBS OF THE SCALIGERS, VERONA, ITALY.

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No. 704. American Architect and Building News, June 22, 1889.

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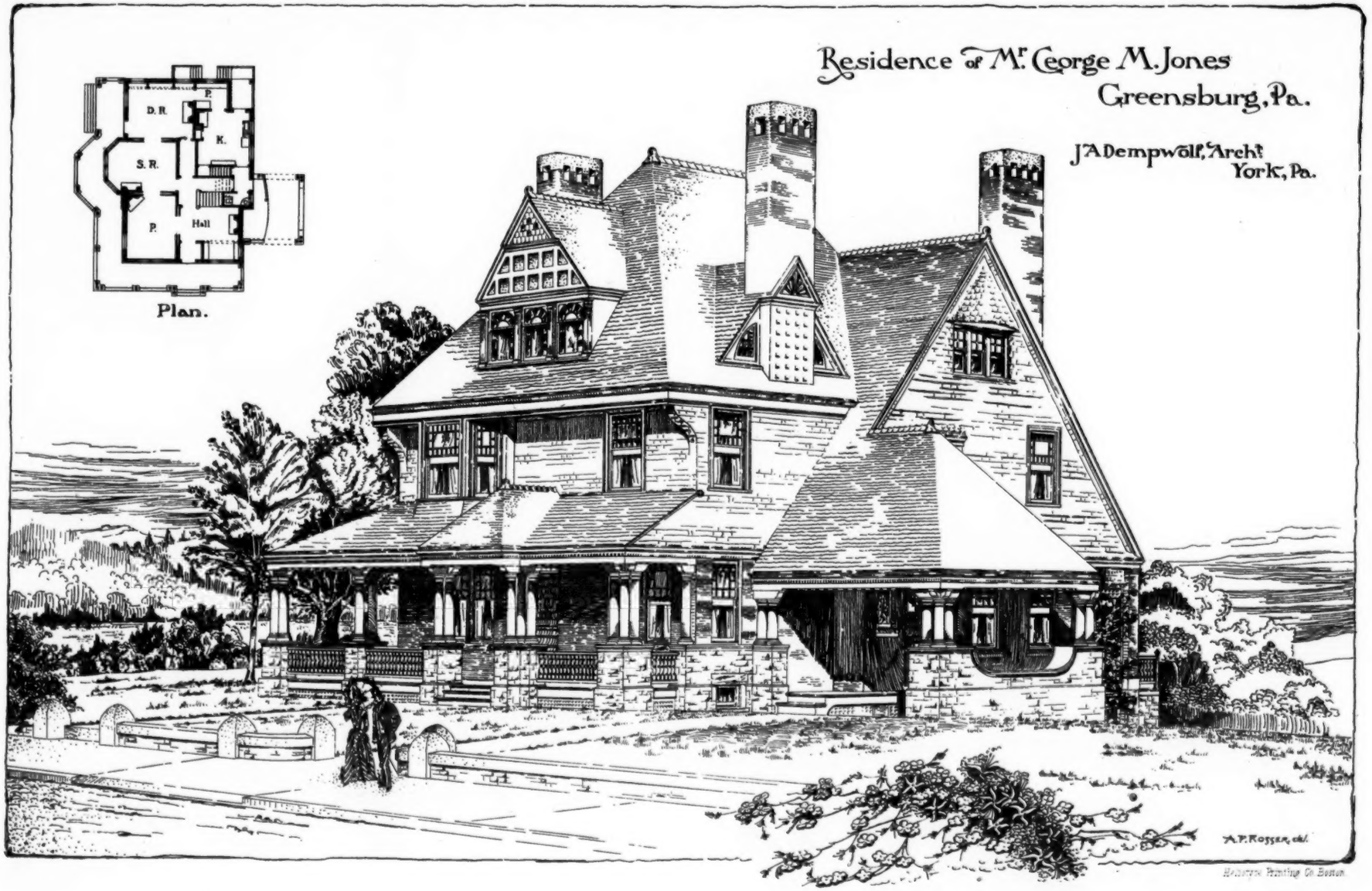

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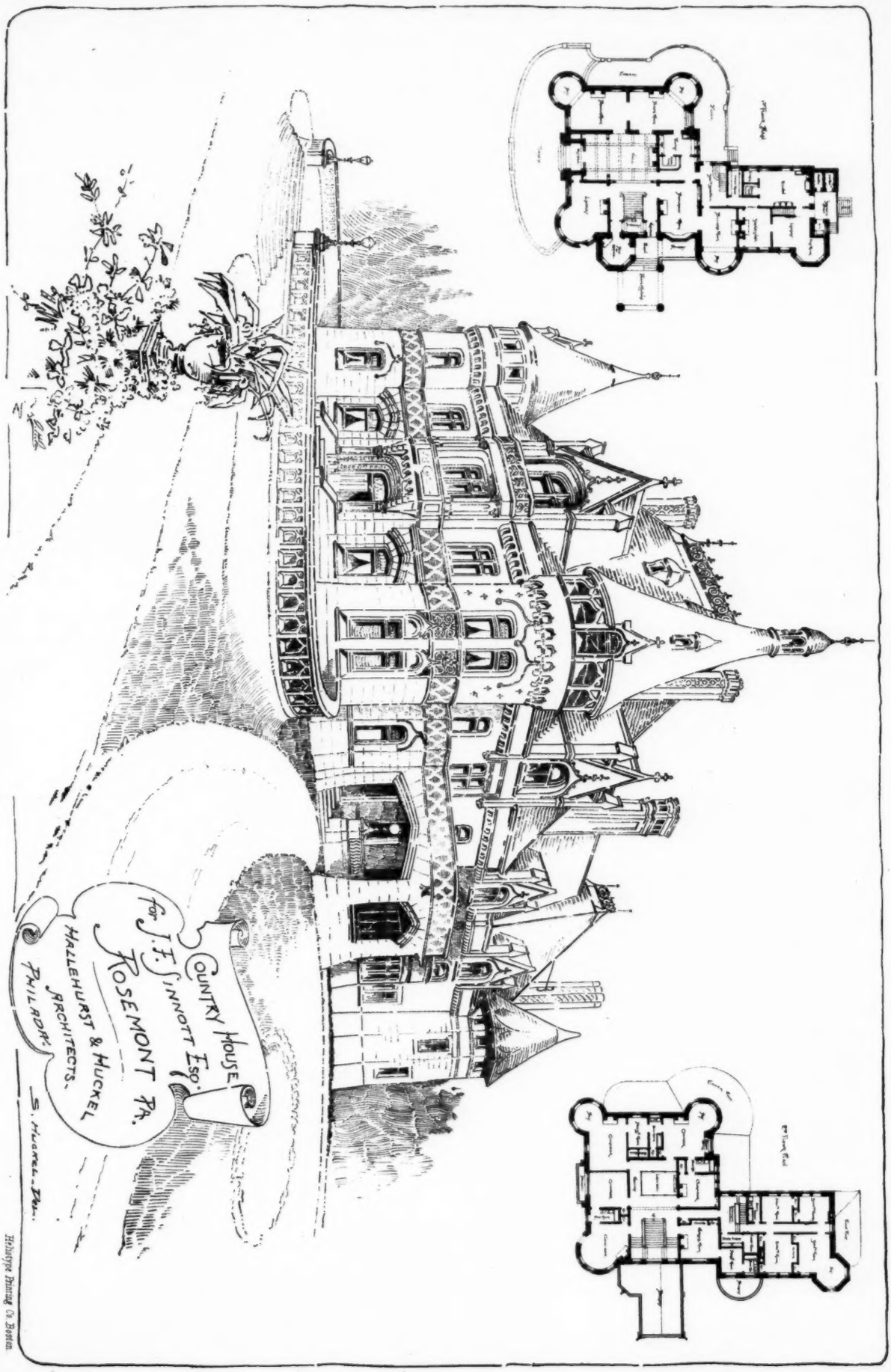

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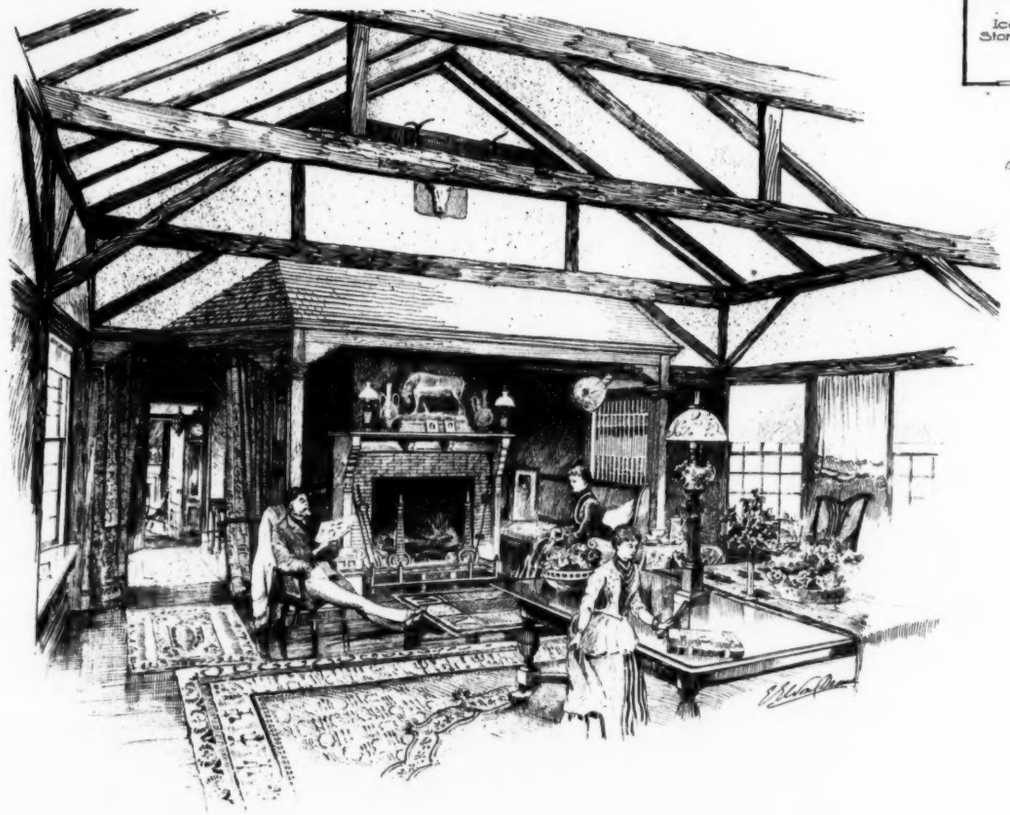
General View shewing old House & Additions

House at Manchester Vermont for Mr E.S. Isham

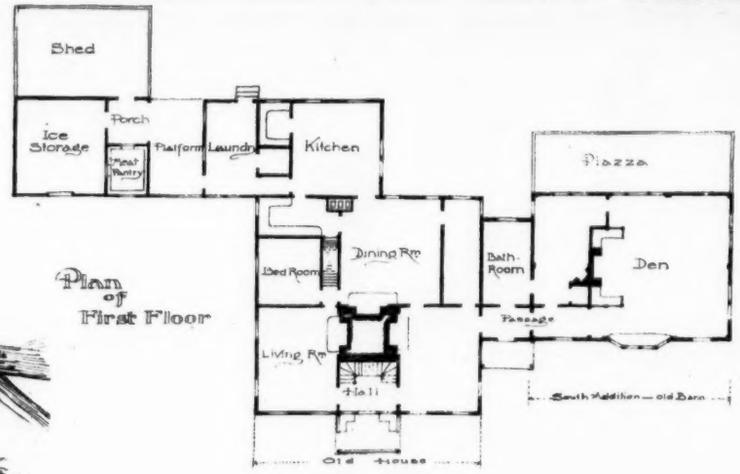
being an enlargement of the "Old Homestead" : F.W. Stickney. Archt. Boston. Mass.

being an enlargement of the "Old Homestead":

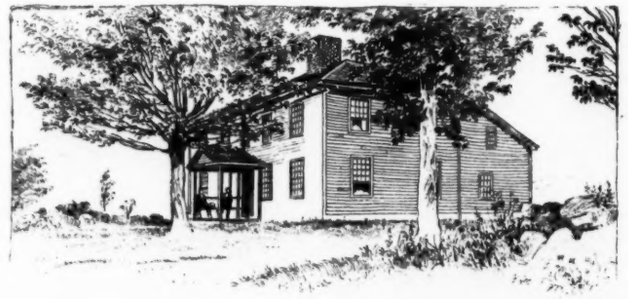
F. W. Stickney. Archt. Boston. Mass.



Interior of Den



Plan of First Floor



The old Homestead

Sketched from Photo.

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